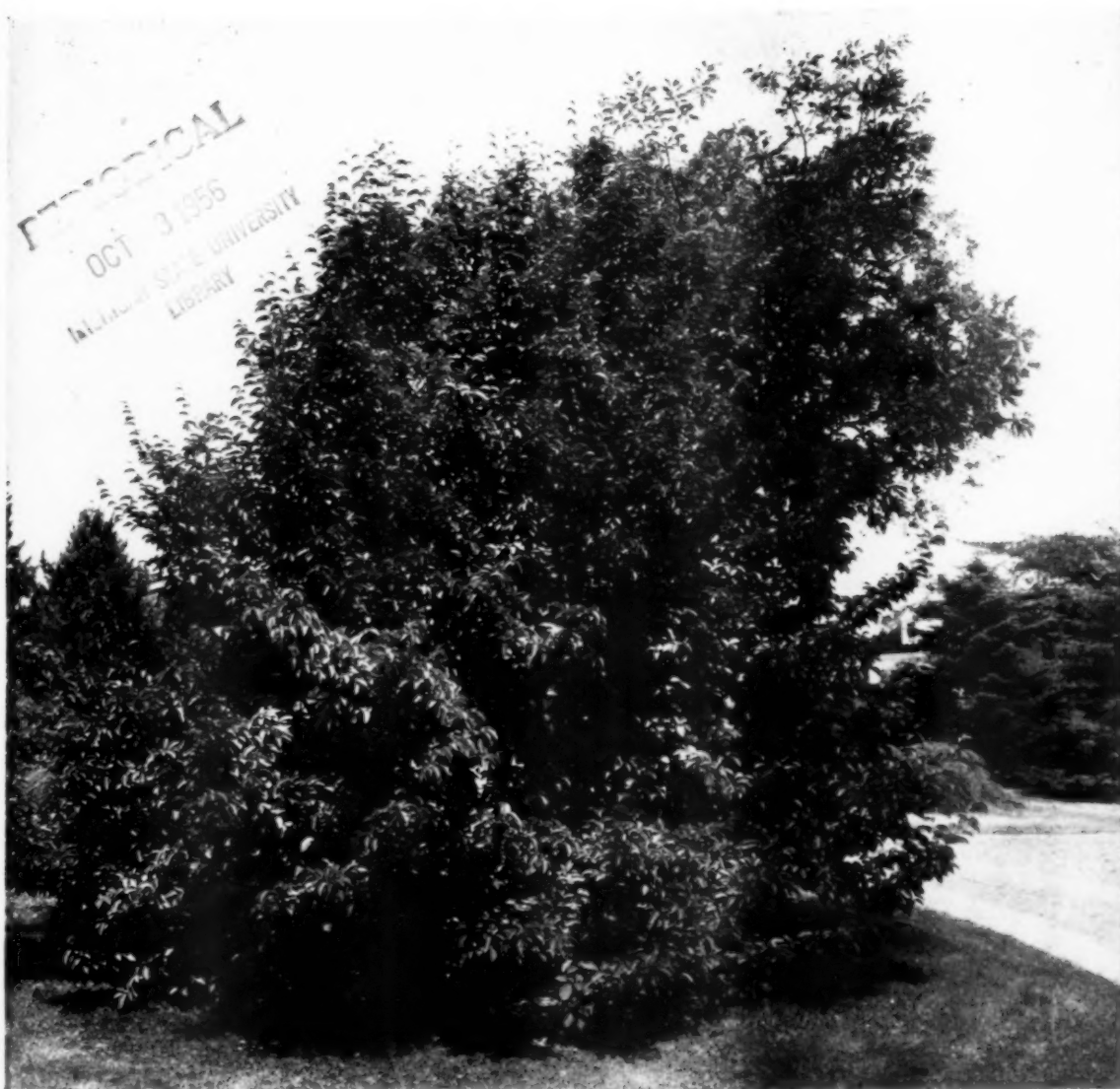


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# AMERICAN NURSERYMAN

*The Nurseryman's Forte: To Make America More Beautiful and Fruitful*

OCTOBER 1, 1956



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# AMERICAN NURSERYMAN

[Registered U. S. Patent Office]

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Forms for the October 15 issue will close Friday, September 28.

Forms for the November 1 issue will close Friday, October 12.

Mail copy to arrive at Chicago by these dates—no later!

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# AMERICAN NURSERYMAN

F. R. KILNER  
*Editor and Publisher*

FRED H. KILNER  
*Managing Editor*

C. A. BRADY, Jr.  
*Advertising Manager*

## Editorial

### FAIR PRACTICES

Interpretive comments on the fair trade practice standards recently adopted by the industry have been sent to members of the American Association of Nurserymen from the headquarters office. While they spell out the precedures under certain rules, such as that in regard to making substitutions, they reinforce the conclusion that the honest nurseryman who has had his customers' interests in mind in advertising or making sales has nothing to worry about. His intent is known, as well as his reputation, and neither contains any hint of deception.

The standards adopted will be worthwhile if they halt the activities of the fly-by-night merchandisers whose only purpose was to entice the public's dollars, shipping whatever they thought would keep the customers quiet. And the rule should do that.

Some dealers, and possibly a few nurserymen, will need to be more careful in their offers and their procedures. They have sought to go as far as they could without causing complaint. Their intentions have been questioned by others. Now they will have to adhere to the line, and probably it will be for their own good. After all, there is no better rule on which to establish a successful business than the Golden Rule.

### HELP OVER WINTER

As the end of most nursery operations nears with the approach of cold weather in the more northerly states, the question recurs how many of the staff to retain and what men to let go over winter. Such curtailment is not so large a question now that machinery has replaced, in some degree, men in field work and planting operations. But it returns each autumn, its importance depending upon the type of individual business and the proprietor's attitude toward the subject.

There has been an increasing effort by nurserymen to retain desir-

able help over winter by taking on work in that period, instead of just shutting down and going to Florida or elsewhere. Landscape firms may take on tree trimming, maintenance work and allied activities. Some nurserymen engage in other business, not too far afield, just to cover the payroll in the off season. Garden centers display house plants, containers, Christmas wreaths and similar merchandise. The ingenuity of some enterprising employers in this field has developed a considerable list of occupations for employees according to the nature and needs of the locality.

The decision what to do and how far to go rests with the individual employer. An important consideration is service to the community, which is obviously better with trained and steady help. Another is the future expansion of the individual enterprise, which depends upon the opportunities made available to employees. A third is the possibility of the employer's sharing the load with others, as his years advance, instead of being shackled with a 1-man business. Of course, the surmounting factor is the tendency in all industry toward steady year-round employment.

### ON GUARD

The report of finding a lone Japanese beetle at an air field on the Pacific coast, almost 2,000 miles farther west than any infested area, reinforces the warnings of state regulatory officials that the increased rapidity of modern transportation widens the possibility of infestations of known and unknown pests.

For no reason yet advanced, the Dutch elm disease, for some years confined to the eastern seaboard where it was introduced from abroad, has recently spread farther into the midwest than was even feared a few years ago.

Our modern era brings great benefits from inventive progress, and it also brings added perils in horticulture as in atomic industry, or what you will.

In nurseries and in customers' premises, professional men familiar with pests and diseases must be alert to warn, advise and act, in order to reduce the toll taken by them and to reduce their spread locally, if possible. So many are the garden pests and diseases that nurserymen and arborists cannot be familiar with

them all, though they should know those dangerous in their locality, but state experiment stations, regulatory officials and others provide prompt cooperation and scientific knowledge in case of doubt. Much progress has been made in this direction, also, so that all are better able to cope with the infections and infestations that threaten.

### FOR GARDEN EDITORS

Following the articles that appear in the garden departments of newspapers, one is likely to be struck by the limited, even hackneyed, subjects treated therein. Lawn making, soil conditioning and novelty flowers cover a large part of the garden editor's repertoire.

Considering the thousands of plants in cultivation, or even the hundreds common in gardens, there would seem to be ample room for interesting diversity in these columns.

The editors of such, even if they are briefly drafted from reportorial work for the job, should be alive to their possible mission of interesting and informing readers to whom gardening is almost an unknown field. The great American public has become interested by the millions in home grounds in recent years. Yet few even see a seed catalog.

What has been achieved by experienced and expert garden editors in some metropolitan dailies should be evidence of the possibilities that face their lesser fellows in other periodicals.

### CONVENTION DATES

The midwinter conventions of state nurserymen's associations will soon be upon us. Visitors, as well as members, wish to plan in advance what meetings they will attend. Both they and the state associations will benefit if the convention dates, headquarters hotel and city and state are listed well in advance in the meeting calendar of the American Nurserymen. This information is sought now from the association secretaries.

Convention programs also will be published in advance, if association secretaries will forward a copy, as soon as completed, for the "Coming Events" column of this magazine.

Providing this information to nurserymen as soon as it is available will be a means by which state association officers can increase attendance at their midwinter conventions.



# How to Make More Money In the Nursery Business

By Russell H. Zakariasen

The aim to make more money may strike the idealistic souls of nurserymen—lovers and propagators of beauty as we are—as both crass and opportunist. This need not be the case. For while we enjoy our work for its own sake and also ought to be forever raising the standards of professional service to the public without thought of ourselves, still we certainly wish to make a respectable living.

I venture to say that the average "good" nurseryman—considering the education, years of professional experience and long hours of continuous work which he must be willing to put into his effort toward a successful business—does not have the income which he might justly expect in these times. Why?

I came to ask myself this question in regard to my own business several years ago when one of the prominent business analyst or engineering firms in the country approached us with the proposal to come into our firm, study it and show us how we could make changes and set up controls that would "save us thousands of dollars a year." We subscribed to the extent of paying them \$100 to make the study, after which they were to tell us what they could accomplish for us. Although they failed to sell us on their more extensive study, this experience did result in making us more conscious of the need for better yardsticks to measure our performance from week to week, or month to month, or even day to day, as successful businesses in other fields have learned to do. From that time on, we have been constantly on the lookout for ways better to see and understand what is happening to our business profit-wise.

## Labor Charge

Labor costs have always been a big factor. While we had always followed a policy of trying to pick good men and paying them well, we had failed to settle another phase of the problem, what to charge customers for hourly labor. Much thought was given to "what the traffic will bear,"

Address, "How to Make More Money in the Nursery Business," given at meetings of several nurserymen's groups this year by Russell H. Zakariasen, Homedale Nursery, Hopkins, Minn.

what the supply of labor will be, what we charged last year, what we paid the help per hour, etc., but little consideration was given to trying to measure the true costs of putting a man out on the landscape job.

To measure this correctly we, of course, should have to include transportation, cost of supervision, small tools, lost time between jobs, vacation time or sick leave paid for, workman's compensation and liability insurance, etc.—in short, all of the direct and overhead costs involved in being able to send that man out.

To do this becomes somewhat complicated if a business consists of a landscape business, a nursery (growing) operation and a cash-and-carry operation. If the business is just a landscape business, the formula is simple (see exhibit 1). Take the overhead, add the cost of all labor paid for, add a fair return for the proportion of time of management spent on supervising this labor and

Sales Slip #		
Black Dirt	Yds	
Sod	Yds	
Flagstone	Lbs	
Wallstone	Lbs	
Insecticides, Woodkillers		
Fencing		
Seed		
Hardware		
Perennials		
Nursery Stock		
Machine	Hrs	
Machine	Hrs	
Fertilizer	Lbs	
Labor	Hrs	
"	Hrs	
"	Hrs	
"	Hrs	
"	Hrs	
"	Hrs	
"	Hrs	
"	Hrs	
Misc.		
Misc.		
Total		
Contract Price		
Gain or loss		

Exhibit 2—Sales slip used for determining profit or loss on individual landscape jobs.

divide by the total number of hours paid for. You then have the average cost per hour of sending out and supervising a landscape worker.

If you have a stock-growing and a cash-and-carry operation, you

1. Total labor expense	- - - - -	\$	
2. Less cost of labor attributable to growing and digging operations. (3 men from April 15 thru Sept. 15)	\$ -		
3. Less cost of labor attributable to handling of cash and carry operations and delivered or shipped items only (1 man for entire year and 1 man from April 1 thru November 15)	\$ -	\$ -	
4. Cost of labor attributable to landscape operations	-	\$	
5. Plus portion of management salaries attributable to landscape operations	- - - - -	\$	
6. Cost of labor and management attributable to landscape operations	- - - - -	\$	
7. Plus all overhead expenses	- - - - -	\$	
8. Less percent for portion attributable to cash and carry operations	\$ -		
9. Less percent for portion attributable to stock and material sales on landscape jobs	\$ -		
10. Less percent for portion attributable to growing operations	\$ -		
11. Overhead attributable to income from landscape labor	\$		
12. Landscape labor expense	- - - - -	\$	
13. Total hours paid for	- - - - -	Hrs.	
14. Less above labor attributable to cash and carry and growing operations	- - - - -	Hrs.	
15. Net landscape labor	- - - - -	Hrs.	
16. Less supervisory and overhead personnel not directly used on job but charged for	- - - - -	Hrs.	
17. Net labor used on jobs	- - - - -	Hrs.	
18. Net cost per hour of keeping man on landscape job (Item 12 divided by item 17)	- - - - -	\$	2.88

Exhibit 1—Analysis of landscape labor cost, 1952, showing method for deriving net cost per hour of keeping a man on the job.

Date	Sales to Date (\$)		Gains and Losses	Winter Orders	Spraying Orders
	Last Yr.	This Yr.			
Bill					
Dick					
George					
Tom					
Mike					
Harry					
Totals			Spray Sales	Last Yr. This Yr.	

Exhibit 3—Blackboard Diagram for Showing Reports of Sales Progress

must deduct the hours, cost of those hours and the value of the overhead attributable to those operations before applying the formula for establishing the average cost.

In our own operation in 1952 we found the final figure to be \$2.88 per hour, although our wages paid to workers were only \$1 to \$1.75 per hour. Since that time the total cost figure has grown to slightly over \$3.10.

After studying this situation for some time, we concluded that if we were to make a fair profit on this part of our business, we should have to receive around \$3.50 or \$4 per hour for each workman's time. Realizing that there would be considerable resistance to this price per hour for help, or even to \$2.50 or \$3 per hour as we had charged in the past, we decided to use a different approach; namely, the contract method of charging.

During the past three years we have done everything on a contract price without discussing hourly labor costs with the customer. He is merely told what we will accomplish for

him and what the total bill will be. He is happy to give us the job at a definite price, which, of course, we are obligated to stick to, regardless of profit or loss. In making our estimates we have worked out procedures to insure profit in all predictable situations, of course.

When we do the landscaping we check our profit in the following way: First, we make out what we call our "Contract price — retail value comparison slip" (see exhibit 2), which lists all of the components of the job, including labor, at retail prices (labor \$3.50 per hour), and we compare the contract price with this to see how we came out. Our experience so far is that we gain approximately 5 per cent over the amount we should get if we charged by time and material. Then, too, the customer is happier because he gets what he wants at the price he knows in advance he will have to pay. It is our business to strive for efficiency as never before, yet our customers are no longer made unhappy by seeing a man take two minutes off to smoke a cigarette or rest his back,

or by seeing him show up for the job a few minutes late.

In computing the labor on these slips we account for all labor paid for, all of each man's time each day. That way there is no time that is not figured in.

Studying the financial picture for each job helps us to become more proficient both in estimating and in performing a similar job in the future. If one of our staff leans toward charging too much or too little for his jobs, he learns to stabilize his judgment.

#### How to Push Sales

Another factor that affects profit is sales. In our organization there are six people who are responsible for different phases of our business—three on landscape sales, one on telephone sales, one on garden store and the sixth the spraying department head. We have a blackboard (see exhibit 3), which shows the accumulated sales for each department for the year and right beside it the comparable figure for the previous year. The board also shows the per cent of gains or losses in contract work over the figure that actual time and material prices would have given.

Such a board can also record sales for any particular phase of the company's business that it may be desirable to push. In our case we are trying all year around to push the writing of winter trimming orders. We therefore record these orders under each salesman's name. We do the same thing for spraying orders, since our spraying department is new and is fully able to handle a large volume of business.

Our board tends to keep the need for sales in these phases of our business constantly before us and even fosters a little friendly competition

[Continued on page 81]

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Labor and Wages												
Materials												
Stock												
Nursery Supplies												
Equipmental Rental												
Transportation												
Insurance												
Advertising												
Depreciation												
Maintenance												
All Other Expenses												
PROFIT												

Exhibit 4—Accumulated Per Cent of Expenses to Gross Sales, by Months

# A. A. N. Officers Talk at Oregon Meeting

By James Doty

The Gearhart hotel, Gearhart, Ore., was the ocean-front setting for the annual summer meeting of the Oregon Association of Nurserymen, September 10 to 12. Nurserymen from throughout the Pacific northwest attended, and recreation and relaxation, along with business sessions and a speakers' program, combined to make this third summer meeting a success.

The business program, opened the morning of September 11, was highlighted by talks by L. H. McGuire, Puget Sound Nursery, Tacoma, Wash., and American Association of Nurserymen director for region VI, and by Clyde Stocking, San Jose, Calif., A. A. N. president. Mr. McGuire brought out the value of membership in the American Association of Nurserymen. He pointed out that the A. A. N. is important in insuring that nurserymen get their share of the consumers' dollar. Too often, he said, a trade association is taken for granted and an individual member does not realize its value nor make full use of it. Mr. McGuire went on to explain the functions of the A. A. N. board of directors and of the board of governors, the representative governing body of the association. He pointed out that it is a responsibility of the local association and local chapter to instruct and direct its representatives on the board of governors.

Stressing the importance and value of the A. A. N. on the national level, he related some of the work that has been done in promoting the industry, educating the public and bettering the conditions under which a nurseryman can operate both locally and interstate. In closing, he emphasized that the A. A. N. is for all nurserymen, large and small, and works for the betterment of the entire nursery industry.

## A. A. N. President Speaks

President Clyde Stocking gave a direct report to the Oregon meeting and to A. A. N. chapter 12 members on the specific operations of the A. A. N. headquarters. He illustrated the need for legislative representation of nurserymen in a state as well as national capital and he pointed out the great value of having the trade association offices at Washington, D. C., citing examples of legislation that the A. A. N. has



Sports tournament prizes draw attention at summer meeting of Oregon Nurserymen's Association. Viewing them are, left to right, Clyde Stocking, president of the American Association of Nurserymen; Melvin Surface, president of the Oregon Association of Nurserymen, and L. H. (Bud) McGuire, A. A. N. director for region VI.

kept contact with for the nurserymen. He went on to tell of the business promotion aspects of an association and the accomplishments of the A. A. N. in both trade and public relations. He pointed out that the board of directors is made up of retailers as well as wholesalers—small as well as large nurserymen. In closing, he urged all to help themselves and help the A. A. N. by encouraging participating membership.

## Association Progress

The second business session of the association September 12 was devoted almost entirely to reports on association progress. Of direct interest to all Oregon nurserymen was the work of the chapter organization committee, under the chairmanship of W. P. Nuffer, Troutdale. This committee is setting up bylaws for approval and making the basic organization necessary to put chapters into operation. Through the reorganization into chapters and with the assistance now of an executive secretary, the Oregon Association of Nurserymen should expand and progress.

Concluding the business session was a "buzz" session, moderated by James Doty, Doty & Doerner, Inc., Portland. At this session the membership asked many questions about, made suggestions for and discussed the O. A. N. operation and what it could do to further its value to mem-

bers and promote better public relations for the nursery industry in the Pacific northwest area through the new publication media, the O. A. N. Digger.

Featured at the luncheon meetings were two outstanding speakers. Speaking September 11 was Charles F. Walker, president emeritus of Northwestern School of Commerce. Mr. Walker, who with his wife recently toured European countries for over six months, gave the Oregon nurserymen a graphic picture of present conditions abroad. September 12, Steve McNeil, a regular contributor to the pages of the Saturday Evening Post, brought the serious as well as the humorous side of a writer's life to the luncheon group.

On the lighter side of the program, bingo, a table tennis tournament, shuffleboard and a golf tournament made the 3-day stay a pleasurable one. In the golf tournament, L. H. (Bud) McGuire held the low gross, and giving him a close run throughout the afternoon was a large contingent of golfers, including Clyde Stocking; Bill Steward, Maple Valley, Wash.; Pat Dering, Peterson & Dering, Scappoose; A. Lynn Brooks, Carlton Nursery Co., Forest Grove, and Reed Vollstedt, Eugene.

Highlight of the summer convention was the beach party and clam-bake. Group singing made a pleasant end to the evening.



# New York Association Tours Nurseries at Summer Meeting

By C. A. Vanderbrook

Nurserymen from all sections of New York state convened at Rochester, N. Y., for their annual summer meeting, August 23 and 24. The Western New York Nurserymen's Association, acting as hosts, scheduled an interesting and informative program. Thursday morning the nurserymen and their wives motored to Newark, N. Y., center of the thriving nursery industry in central New York.

## Visit Jackson & Perkins

First stop on the tour was the 17-acre Jackson & Perkins rose gardens. Because cool summer weather had prevailed in the area, the roses were in excellent midsummer condition. The nurserymen particularly enjoyed viewing the rose beds designed for mass color effects and the small gardens that were planned to stimulate ideas for home plantings. The youngsters in the group enjoyed the delightful Story Book garden.

The nurserymen also inspected the new Jackson & Perkins office building, overlooking the rose gardens, and the modern and efficient packaging and processing facilities where several million roses are handled annually for shipment to points all over the country. Of particular interest were the new refrigerated storage facilities completed this year.

## Gardening Council

Luncheon at the Newark Country Club was followed by a tour of the large packaging and processing facilities that serve the five member nurseries of the Gardening Council—C. W. Stuart & Co.; Quaker Hill, Inc.; Knight & Bostwick; W. C. Moore & Co., and Empire Nursery Products Co.

Clarence Vanderbrook, research director of the Gardening Council, demonstrated a modern development used to test the viability of plants and shrubs—the conductivity bridge. At present the council is setting up standards or norms based on the principle of the conductivity bridge for different varieties of plants sold by its member nurseries.

The nurserymen were also much interested in the experimental work the council, in conjunction with the department of ornamental horticulture at Cornell University, Ithaca,

N. Y., has been conducting on low temperature storage of rooted cuttings. Dr. John Seeley, the new head of the department, and Dr. A. M. S. Pridham, department member, were present and contributed to the demonstration. Mr. Vanderbrook compared field-grown plants of teucrium stored according to common or standard methods and those stored in polyethylene. Additional research is also being done using this method on chrysanthemum stolons. Field-grown plants grown from cuttings stored under both the standard

## NEW YORK STATE OFFICER



Sidney A. Bennett

Sidney A. Bennett, Valhalla, N. Y., secretary-treasurer of the New York State Nurserymen's Association, has also served as secretary of the Eastern New York Nurserymen's Association, of which he is an honorary member. He is chairman of the new membership committee for the New York state association.

Born in Lycoming county, Pa., Mr. Bennett's interest in agriculture asserted itself early. He attended high school at Geneva, N. Y., where he was an active member of Hi-Y and Future Farmers of America and took charge of school farm and crops shows. He received his B. S. degree from the college of agriculture of Cornell University, Ithaca, N. Y., and was an assistant in research at the New York state agricultural experiment station at Geneva during the four summers of his college term.

After leaving college, Mr. Bennett became a horticultural inspector for the New York state department of agriculture and markets, a position he still holds. He has been a member of the New York state Grange since his high school days.

methods and polyethylene were demonstrated.

## Mist Spray Propagation

The commercial application of mist propagation of rooted cuttings was explained and demonstrated by Donald Vanderbrook, also a member of the research staff of the Gardening Council. This matter was of special interest to the visiting nurserymen who had an opportunity to read about the use of mist propagation by members of the council in the November 1, 1955, issue of the American Nurseryman. These nurseries are now propagating several hundred thousand perennials by this method.

Finally, the visitors were treated to a demonstration of the latest methods by which nursery shipments are assembled and pass through a maze of roller conveyers to a point where they are packed in cartons, ready for shipment to customers. One of the highlights of this demonstration was the rather ingenious method used to select the proper size of carton for any given nursery stock order. This unique, automatic system was designed and demonstrated by George Kircher, industrial engineer for the Gardening Council.

At the completion of the inspection of the Gardening Council processing and packaging operations, the visitors journeyed to the Sodus Bay Heights Golf Club, where they enjoyed an informal social afternoon and dinner.

## Rochester Parks

Friday morning, a special tour of Highland park and Durand Eastman park was enjoyed. This part of the excursion was arranged and personally directed by Wilbur Wright, Rochester parks director. On hand to guide the visitors were six members of Mr. Wright's staff, who made the tour all the more enjoyable by pointing out some of the interesting specimens and explaining their origins.

It was unfortunate that more time could not be devoted to this part of the program, as the Rochester park system is world-famous, and it was apparent that one could spend several days wandering among the magnificent and unusual specimens growing there and still not see them all. Durand Eastman park alone contains more than 600 acres of plant material growing in natural surroundings.

Highland park, the home of the world-famous lilac collection, contains more than 500 different varie-

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Speakers at the ninth annual Canadian short course: Standing, left to right, Paul Gagnon, Montreal Botanical Garden; Louis Perron, landscape architect, Montreal; R. Goodwin-Wilson, Ontario Agricultural College, Guelph; A. O. Olsen, department of plant pathology, Macdonald College, Quebec, and Harry Teuscher, curator, Montreal Botanical Garden; seated, left to right, H. R. Murray, department of horticulture, Macdonald College, and A. B. Luke, Hudson, Que., president of the Canadian Association of Nurserymen.

## Varied Talks at Canadian Short Course

### Weed Control, Propagation and Sales Station Operation Principle Topics

By A. E. Cox

More than 100 nurserymen from Ontario and Quebec attended the ninth annual short course of the Canadian Association of Nurserymen, held August 9 and 10 at Macdonald College, at Ste. Anne de Bellevue, near Montreal, Que. A series of lectures by outstanding authorities, on subjects ranging from weed control to modern landscape design, held the attention of the nurserymen.

Prof. H. R. Murray, department of horticulture, Macdonald College, welcomed the nurserymen to the short course. A. B. Luke, president of the Canadian Association of Nurserymen, presided over the opening session.

#### Weed Control

Prof. A. O. Olsen, department of plant pathology, Macdonald College, outlined chemical weed control recommendations of the national weed committee, eastern section.

Materials recommended to effect soil sterilization for the control of all vegetation, for short terms up to one year, were sodium chlorate at three pounds, borate-chlorate mixtures at four and a half pounds and Ammate at three pounds, each for 100 square feet. For long-term sterilants giving effective soil sterilization for periods of two years or more and possibly partial sterilization for

longer periods, CMU at one and a half to three ounces and concentrated Borascu at five to nine pounds to 100 square feet; dalapon and 2,4-D mixtures at 30 to 45 pounds per acre, and pure 2,4-D acid at two pounds per acre were recommended.

Professor Olsen said that higher rates should be used on sandy soil and that effectiveness of the chemicals may be influenced by soil type and rainfall. He also cautioned that damage to trees and shrubs may result if their roots extend under the treated area. It was pointed out that in cases where a sloping area is treated, some of the chemical may wash down and injure plants beyond the treated area.

Recommendations for using methyl bromide to kill weed seeds in soil were as follows: The chemical should be applied under a gasproof cover at the rate of one pound to 100 to 125 square feet. If the temperature is over 60 degrees Fahrenheit, the area should be covered for 24 hours. At a temperature below 60 degrees F., the cover should remain for 48 hours. Planting may be done 48 hours after removal of the cover. The treatment is effective against weed seeds, nematodes, insects and fungi that cause soil-borne diseases.

For weed control in seedbeds, it was recommended that the soil be treated in September for use in the

spring by mixing granular cyanamide thoroughly with the soil at the rate of 10 to 13 pounds per cubic yard of soil.

#### Selective Weed Killers

Recommended selective weed killers in established asparagus beds were CMU, preferably applied before weed emergence and used in combination with 2,4-D or MCP to control broad-leaved weeds and grasses; 2,4-D or MCP amine, applied early in the season just after a cutting and again at the end of the season; granular cyanamide, applied when weeds are small; TCA, applied after cutting, to be used only once in a season, or combined with 2,4-D or MCP; dalapon, alone or in combination with 2,4-D or MCP, for the control of annual grasses, to be applied after cutting, only once per season, and Alanap, to be applied before the asparagus spears emerge.

Dalapon was recommended for couch grass control around apple and pear trees, to be used in spring or fall. DNBP, oil soluble, was listed for weed control in grapes, to be applied under vines when the weed growth is six inches high and repeated as necessary. For red raspberries, black raspberries and blackberries, 2,4-D amine, applied at any

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# Progress with Strawberries

Considerable progress has been made in increasing the yield of strawberries. California has been outstanding in strawberry production; there six tons of strawberries per acre is just an average yield. At the same time, few states have approached the California average.

New varieties, as well as the new virus-free strawberry plants recently introduced by the United States Department of Agriculture and others, have been a big factor in the increased production of strawberries throughout the country. Judson Nurseries, Bristol, Ind., for example, supplied several growers in Michigan a relatively new variety, named Paymaster, of which the foundation stock had been indexed and found to be virus free. On one grower's farm, Paymaster averaged 13,000 quarts per acre, or around seven tons of strawberries. This is more than double the average yield of strawberries in the state of Michigan. This coming spring, several million strawberry plants will be grown from virus-free foundation stock available from nurseries which are cooperating with the U. S. D. A. virus-free program.

Judson Nurseries, one of the firms that have been cooperating with the U. S. D. A., have propagated several varieties from foundation stock that has been checked and found to be virus free. These are varieties Vermillion, Jumbo Empire, Plentiful and Paymaster. Besides these, the firm has 10 varieties from the U. S. D. A., which furnished the virus-free foundation stock.

## Stock in Screen House

To cooperate with the U. S. D. A. requirements it was necessary for the Judson firm to construct a screen house to propagate the virus-free foundation stock. Enclosing about one tenth of an acre, this screen

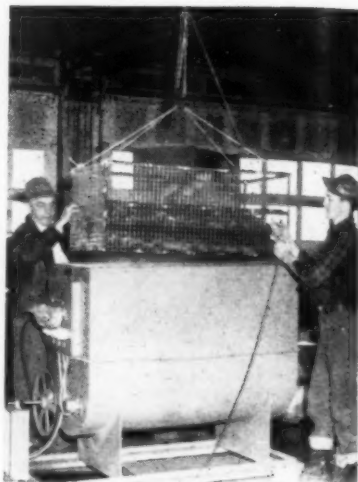
house, shown in an accompanying illustration, holds planting stock for a foundation planting of around 50,000 plants, or enough to plant 10 acres or more. The Judson commercial fields produce between 15 and 20 million plants from the virus-free stock.

The firm has also been working with the U. S. D. A. in a program to rid strawberry plants of nematodes. In this work the commercial fields are fumigated by a field application of Dowfume 85 or Shell DD. The soil in the screen house is fumigated with methyl bromide gas. The stock in the screen house is dug dormant and held at a temperature around 30 degrees until ready for hot-water treatment. The stock for the screen house, as well as the stock for the 10 acres of foundation planting, is hot water treated according to the new U. S. D. A. recommendations of using hot water on dormant plants at an exact 127-degree temperature for four minutes. An accompanying illustration depicts the equipment used for this process. The hot water treated plants are completely free of nematodes. The planting stock of all the firm's Red Rich planting was hot water treated last spring.

Great progress has been made in the shipping of strawberry plants. It has been possible to hold strawberries that were dug dormant after two or three hard freezes in polyethylene-lined containers, at 30 degrees, until the following fall; they will then grow 100 per cent.

## Shipping Method

For small-quantity shipping, two methods are used by Judson Nurseries. In one the bundle of plants is sealed within a polyethylene bag, which is placed in a corrugated container for shipment. The other method uses a polyethylene laminat-



Equipment for hot-water treatment of dormant strawberry plants to destroy nematodes.

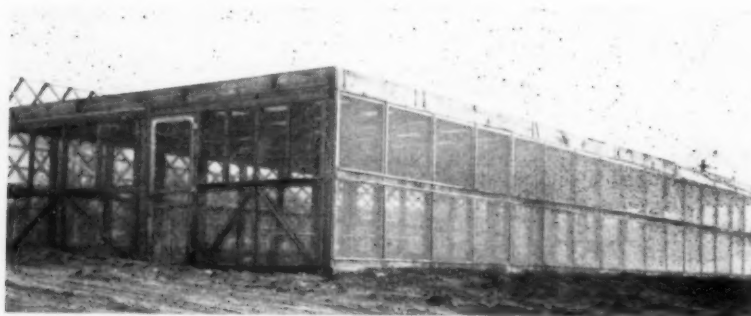
ed kraft paper bag, into which the plants are placed, and then the bag is sealed for shipment. Eye appeal can be added by color printing on the polyethylene bags. For larger units of 500 or more plants, the firm packages the plants in polyethylene bags which are then placed in larger corrugated cartons for shipment. No packing material is used in this procedure, and perfect results in shipping the dormant plants in this manner were enjoyed. However, fresh-dug plants handled in the same manner often suffer a setback or do not give the abundant growth of the dormant plants.

Judson Nurseries have found that a high phosphorus and nitrogen level and a relatively high potash level produce the maximum amount of fruit per acre.

## MORTON ADDITION OPENED

Opening of the new Arboretum Center, consisting of the Jean Morton Cudahy memorial rotunda and lecture room, the research wing and the new propagating houses, was held at the Morton Arboretum, Lisle, Ill., September 27.

Speakers on the occasion included Sterling Morton, chairman of the board of trustees; Clarence Godshalk, arboretum director, and Dr. George S. Avery, Jr., director, Brooklyn Botanic Garden, Brooklyn, N. Y. Visitors had an opportunity to tour the center and view a laboratory demonstration on Dutch elm disease.



Screen House Built for Propagation of Virus-Free Strawberries.

# Operating a Garden Center

## Chapter 19. Buy or Produce Stock?

By John J. Pinney

Sooner or later, everyone who retails nursery stock asks himself, "Should I try to grow my own nursery stock?" It is only natural for one to wonder if he could produce his nursery stock cheaper than he could buy it. There is no easy answer to that question, because it is practically impossible to determine accurately the cost of producing nursery stock, particularly the cost per plant of each grade and variety.

The wholesaler produces his stock as economically as possible, and he hopes to sell it for enough to make a profit. That appears to be a rather crude method of operating, yet the nature of the business of producing nursery stock is such that those engaged in it have no choice. The only exceptions would be those who specialize in the production of one or two items. Even then it would be difficult to apportion the cost to each grade or size. In other words, if you were to produce your own nursery stock you probably would not know if you were growing it cheaper than you could buy it.

There are many other considerations. Unless you already have land suitable for nursery stock production it would be necessary for you to rent or buy land within a reasonable distance of your seat of operations.

### Growers' Handicaps

In the nursery, as on the farm, a great deal of machinery and equipment is necessary for efficient operation. From one to 10 years are required for the production of various kinds of nursery stock, during which time your capital is tied up in land, machinery, interest, taxes, labor, etc. Among the greatest handicaps in the production of nursery stock are the slow turnover of capital and the uninsurable risks, such as losses from floods, drought, hail, insects and diseases.

The economical production of good nursery stock demands much knowledge and skill, far more than is necessary in ordinary farming. Even under skilled tutelage many years are required to master the art of plant propagation; if one attempts to acquire it by experience, the process is longer and more expensive.

When lining-out stock is purchased, the risks and expenses of propagation are eliminated, but

there still remain the problems involved in bringing the little liners to maturity. One hundred per cent survival of liners is often claimed but seldom achieved. If you succeed in getting 75 per cent survival of liners that cost 50 cents each, the surviving plants will have cost you  $66\frac{2}{3}$  cents each.

For the planting and care of the liners you will need tractors, plows, harrows, disks, sprayers and dusters and, if your production is ambitious, diggers. All of this will be needed for the production of even a small quantity of stock. The smaller the quantity of stock produced, the greater is the investment per plant in equipment.

### Constant Attention Needed

Nursery stock needs constant attention, far more than any farm crop. Shade trees and shrubs must

be pruned and evergreens sheared and staked; all need cultivation, hoeing, spraying and fertilizing. The cultivation of nursery stock must be done carefully, because the slightest injury from the cultivator may result in an unmerchantable plant. The same is true of injuries from a hoe or a carelessly handled pruning knife.

No matter how carefully grown, there are always some plants that cannot be marketed because of defects such as broken branches, scarred or crooked trunks, insect injury or diseased tissues. The cost of producing these becomes a part of the cost of producing the merchantable plants.

Some garden center operators who attempt to grow part of their own nursery stock have found that it is necessary to set up a separate organization for that part of their business. The demands of production often conflict with those of sales, with the result that one or the other suffers.

Planting time in the nursery usually coincides with the busiest selling season in the garden center. Someone must look after the planting as well as the selling. One man can scarcely do justice to both. In the case of a 1-man nursery business, the owner is sometimes more interested in growing nursery stock than he is in selling it. Naturally he is inclined to spend his time where his heart is—to the detriment of sales upon which he must depend for his income. The reverse could also be true, but probably with less disastrous results. In any event, if either sales or production is neglected, the operations are not economically sound.

### Dividing Efforts

If the volume of business is large enough to justify such an expense, the garden center operator can set up separate organizations for sales and production, each one responsible to him. There still remains the danger of his neglecting one at the expense of the other, depending upon where his greatest interests lie. Probably not many garden center operators feel that they can afford separate organizations for production and sales. Then they must decide which phase of the business is most important to him, and give most of their attention to that.

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### VIRGINIA PRESIDENT



George Stockner

George Stockner, elected president of the Virginia Nurserymen's Association at the annual convention in January, has been actively engaged in the nursery business since 1939, except for approximately three years in service in the army and air force. He was vice-president of the Virginia association in 1955 and in that year also served on the executive committee to produce the Virginia flower and garden show, sponsored by the Richmond Nurserymen's Association.

Mr. Stockner has been associated with Laird's Nurseries, Richmond, since the firm was founded in 1940. He is married and has one son. He reports that he enjoys both hunting and fishing as well as spectator sports such as football.



# Landscape Service Group Makes Steady Progress

A report on the progress of the work performed by the Landscape Materials Information Service, a unique trade group in the northeast, has been released by the chairman of the organization, Valleau C. Curtis, Curtis Nurseries, Inc., Callicoon, N. Y. The report carries with it survey of the functions of the service a brief history of the formation of the group.

The service was set up in 1952 to aid the nurserymen in the area when they were confronted with a special problem. Landscape firms and growers were informed at that time that public agencies in the northeast were making extensive landscape development plans which would require more nursery stock than the agencies believed could be supplied by commercial growers. It was further stated that unless the firms prepared to supply more trees and shrubs of the types desired to meet the planting program, the agencies would set up nurseries of their own.

These demands made apparent to the trade the desirability of knowing exactly what materials it had on hand and what it could supply with its facilities. As a result, a group of nurserymen and landscape men of the area met and formulated plans for the Landscape Materials Information Service. At the start the service was sponsored by region I of the American Association of Nurserymen, with the cooperation of the

New York chapter of the American Society of Landscape Architects. When it became apparent that the program would be successful, landscape contractors and suppliers were added to the group. The service was then set up as a self-sustaining independent organization, with bylaws providing for a board of directors and officers.

## Functions of Group

Mr. Curtis describes the services and functions that the organization performs as follows:

1. Two inventory reports are compiled annually showing the complete aggregates of the stock of the nursery members of the service.

2. An average of two bulletins a week are sent to members informing them of landscape contracts or landscape projects planned for the northeast section.

3. Once a year the service receives a compilation of the anticipated requirements of the public agencies for the following twelve months, this information being available to aid the trade in preparing for needs.

4. Periodic reports are sent to the membership giving up-to-date data on the supplies of grass seed throughout the country.

5. Points of availability of scarce plant materials are announced in the semiweekly bulletin of the service.

6. Mutual expression of ideas is made possible in the group. Although

the service has an established policy to take no sides in controversial matters affecting members, it does provide a place for free discussion by which an understanding can be reached to resolve a problem.

## Area Served

Landscape Materials Information Service now covers the states of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Maryland, Delaware and Ohio. Within this area the service feels it can function effectively. It has no intention of expanding further, declares Mr. Curtis.

The present membership of the group is 120. Of this number 47 are nurserymen, 28 are suppliers, 21 are landscape contractors, 13 are landscape architects and 11 represent public agencies.

Membership dues vary with membership classification. Engineering firms, landscape architects, horticulturists, architects, engineers, nurserymen and public agency representatives pay annual dues of \$35. Landscape contractors and suppliers of such products as seeds, fertilizers, topsoil, humus and burlap pay \$75 annually.

Mr. Curtis believes that other areas of the country might find organization of a similar service valuable and adds that the northeast group will be happy to cooperate with any other group having such an intention.

ALBERT B. LAWRENCE has started the Buck Creek Nursery, R. R. No. 1, Box 55, Acton, Ind., growing ornamentals, shade trees and evergreens on five and a half acres.

## OUTDOOR LIVING ROOM PLANTING AT RECENT CALIFORNIA FAIR



Display Staged at the San Mateo County Fair and Floral Fiesta, in California, by the Christensen Nursery Co., Belmont



## Pointers on Propagation

# Problems in the Rooting of Taxus

By James S. Wells

It has been considerable time since I last discussed some of the problems of rooting taxus, and in the interim it has become apparent in discussion with fellow growers that the regular production of good stands of taxus cuttings is not so simple as it ought to be. Because of this, a number of tests were carried out which seemed to clear up a few of the problems and clarify the situation somewhat. These tests were made over two years ago and the results applied in 1954 to commercial quantities with clearly satisfactory results. To a limited extent, therefore, the findings have been proved up in the course of normal commercial practice.

### Size of Cutting

Each grower seems to have his own opinion as to what a good cutting should be, but consistently through our work of plant propagation it has been proved time and again that large cuttings generally root quicker and better than do small ones. Let me say at once that there are a number of well-known exceptions to this rule, as indeed there are exceptions to any rule in plant propagation. *Rhododendrons* are one; *Biota aurea nana* is another. If these exceptions are learned, as they must be by the skilled propagator, then with the considerable number of plants which are left, large cuttings in most instances root best. Almost all cuttings of taxus will root, even quite small side branches not more than two inches long, but far better results are obtained if large cuttings can be taken.

The accompanying illustration will give the reader some idea of what I mean by a large cutting. The lines on the background of the photograph are one inch apart, and it will be seen that these cuttings, therefore, were made about 10 inches long. The caliper of the stem was quite large, and the over-all "body" and size of the cutting were considerably larger than is normal. While the cuttings illustrated were taken from 2-year-old wood, the principle applies equally well to cuttings taken from 1-year-old wood, which many growers consistently use. If cuttings can be taken from young mature wood with a number of young side

branches attached and to an over-all length of eight to 10 inches, they will root better than will cuttings taken from the same wood but made smaller in size.

The type of cutting and the size of cutting which you will make will be largely governed by economics—how many cuttings do you want to make, how much greenhouse space do you have and how much propagating wood is available? The purpose of these comments is simply to record the fact that if you have ade-

quate space and ample propagating material you can take much larger cuttings, root them more readily and produce a larger and therefore more salable plant at the end of the first year.

### Type of Wood

Almost all types of wood can be rooted, but, again, wood which is heavy in caliper and 2 or even 3 years old will often root more readily and much more vigorously than current season's wood. Once again



Large cuttings, 9 to 10 inches long, of *Taxus cuspidata* spreading. Top row, controls, no treatment; bottom row, treated with IBA 15 mg/g in talc. All cuttings taken at 10 degrees below zero, treated and inserted immediately.

TABLE I—TAXUS CUTTINGS

Taken April 27, 1954—Checked September 1, 1954.

Variety	Control	IBA 4 mg/g	IBA 8 mg/g	IBA 10 mg/cc Dip
<i>Taxus hicksi</i> , 1-yr. wood	5 per cent	..	35 per cent	90 per cent
<i>Taxus cuspidata</i> spreading, 1-yr. wood	0	45 per cent	75 per cent	90 per cent
<i>Taxus cuspidata nigra</i> , 1-yr. wood	0	0	0	0

A few rooted with much stronger treatment.

the limiting factor is availability of cutting material, because obviously you cannot cut into 2 or 3-year-old wood each year unless you have a considerable number of stock plants. In most instances it will be impossible for a nurseryman to produce all his plants from wood of this kind, but a proportion can be removed from the stock plants each year with advantage to the plants and to your production schedule.

When removing long shoots produced during the past season, if a small piece of 2-year-old wood can be retained at the base of the shoot, and this heavy cutting made with the piece attached, these cuttings can be inserted separately and will produce superior plants. Lighter cuttings made from the top of the branch, entirely current season's wood, should be kept separate. They will root more slowly and with somewhat less vigor, but will be quite satisfactory.

### Timing

Timing is important on two counts, (1) the need for the plants to be subjected to a hard frost and (2) the earlier the cuttings are taken in the fall the less likelihood there is of their breaking into top growth in the bench before rooting.

The effect of frost upon the stock plants is consistent and it is a factor, as yet unexplained scientifically, which can affect the vigor and speed of rooting. Delay gathering your propagation material until there have been two or three good frosts.

Cuttings taken early in the fall will root in the benches before they make any top growth, and this, I believe, to be due to day length. Dr. William Snyder reported from Cornell University that cuttings of *taxus* could be maintained almost indefinitely in the propagating bench without making top growth if they were restricted to eight hours' daylight per day. As the days begin to lengthen, so are the cuttings induced to break into vegetative growth, whether they are rooted or not. Normal winter dormancy is also a factor which affects this vegetative development, and if the stock plants have been

subjected to winter cold and cuttings are brought into the greenhouse in February, dormancy will be broken, and the cuttings will tend to make top growth before they root, an undesirable development, which we should avoid if we can. So I like to take *taxus* cuttings early, before Christmas if possible, to reduce the development of top growth to the minimum.

In April, 1954, a number of tests on the standard varieties of *taxus* were inserted in a greenhouse to determine just how important was this question of timing. April was chosen as being probably the worst month of the year, and we wanted to find out what results could be obtained in a greenhouse through the summer. Cuttings were taken on April 27 and left in the greenhouse until September 1. No attempt was made to maintain high humidity, and the cuttings were just watered daily with a hose. All cuttings were quite large and had some 2 or 3-year-old wood at their base. I shall quote results with one or two

varieties as being typical of the whole group (table I).

You will note that untreated cuttings of *Taxus hicksi*, whether they were young or old wood, produced poor results, but that quite strong treatments produced excellent rooting on the old wood. Younger wood was definitely inferior.

With *Taxus cuspidata* spreading the same picture is repeated, and certainly at this time of the year the superiority of cuttings made from 2 and 3-year-old wood was clearly to be seen. One of the varieties which responded poorly was *Taxus cuspidata nigra*, and it would seem that excessively strong treatments are necessary to induce any rooting on this variety at this time.

Other varieties tested with similar results were *Taxus hatfieldi*, *Taxus browni*, *Taxus cuspidata capitata* and *Taxus intermedia*.

The final opinion formed from these tests was that it was quite permissible to take cuttings at this time of the year if the cuttings could be made from 2 or 3-year-old wood, but that 1-year-old wood produced from the previous season's growth was not nearly so satisfactory. We also found that cuttings taken at this time of the year could be well rooted in flats in a hotbed and, in fact, this method was superior to the use of an orthodox greenhouse. This I believe to be due to the much higher humidity which was maintained in the frame naturally from the use of the hotbed.

[Continued on page 83]

TABLE II—TAXUS HORMONE TREATMENTS

Variety	Mature 1-yr. wood	2 or 3-yr. wood	Remarks
<i>Taxus cuspidata capitata</i> tips	8 mg/g IBA	—	
<i>Taxus cuspidata densiformis</i>	4 mg/g IBA	8 mg/g IBA	Roots very easily. Control nearly as good.
<i>Taxus cuspidata hiti</i>	8 mg/g IBA	20 mg/cc IBA Concentrated dip.	This variety requires strong treatment.
<i>Taxus cuspidata Halloran</i>	4 mg/g IBA	8 mg/g IBA	
<i>Taxus cuspidata nana</i>	8 mg/g IBA	10 mg/g IBA	
<i>Taxus cuspidata nigra</i>	2% IBA	245 TP 10 mg/g	Requires strong treatment.
<i>Taxus cuspidata Payne</i>	4 mg/g IBA	4 mg/g IBA	Roots easily. Control was as good as 2 mg/g IBA.
<i>Taxus cuspidata spreading</i>	8 mg/g IBA	10 mg/g IBA	
<i>Taxus media browni</i>	10 mg/cc IBA Concentrated dip, or mg/g IBA	20 mg/cc IBA Concentrated dip.	
<i>Taxus media hatfieldi</i>	4 mg/g IBA	8 mg/g IBA	
<i>Taxus media hicksi</i>	8 mg/g IBA	10 mg/cc IBA Concentrated dip.	

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 (English Laurel)  
*Elaeagnus fruitlandi*  
*Elaeagnus simoni*  
*Euonymus, small-leaved*  
*Euonymus coloratus*  
*Euonymus patens*  
*Ilex crenata Biloxi*  
*Ilex crenata convexa*  
*Ilex rotundifolia*  
*Ilex cornuta burfordi*  
*Ilex Foster's Hybrid No. 2*  
*Ilex cornuta femina*  
*Ilex glabra*  
*Ilex opaca, seedlings*  
*Ilex opaca Arden*  
*Ilex opaca Croonenburg*  
*Ilex opaca East Palatka*  
*Ilex opaca howardi*  
*Ilex opaca Hume No. 2*  
*Ilex vomitoria*  
*Ilex vomitoria, dwarf*  
*Jasminum floridum*  
*Ligustrum lucidum nana*  
*Ligustrum Suwannee River*  
*Loropetalum chinense*  
*Magnolia glauca*  
*Magnolia grandiflora*  
*Nandina domestica*  
*Photinia serrulata*  
*Viburnum burkwoodi*

## DECIDUOUS TREES

*Cornus florida*  
*Cornus florida rubra*  
*Euonymus alatus compactus*  
*Magnolia nigra*  
*Magnolia rustica rubra*  
*Magnolia soulangeana*

## CONIFERS

*Arborvitae, orientalis Baker*  
*Arborvitae, orientalis Blue Cone*  
*Arborvitae, orientalis Bonita*  
*Arborvitae, orientalis excelsa*  
*Arborvitae, orientalis newarki*  
*Arborvitae, fruitlandi*  
*Arborvitae, American globosa*  
*Arborvitae, American globosa compacta erecta*  
*Arborvitae, Pyramidal American*  
*Arborvitae, Dark Green American*  
 Cypress, Blue Lawson  
*Juniper, Andorra*  
*Juniper, chinensis procumbens*  
*Juniper, excelsa stricta*  
*Juniper, communis fastigiata*  
*Juniper, hetzi glauca*  
*Juniper, pfitzeriana*  
*Juniper, pfitzeriana compacta*  
*Juniper, pfitzeriana nana*  
*Juniper, virginiana repandens*  
*Juniper, sargentii*  
*Juniper, sabina*  
*Juniper, chinensis Sylvestris*  
*Juniper, sabina vonehron*  
*Juniper, sabina vonehron, sheared globes*  
*Juniper, sabina vonehron, sheared pyramids*  
*Juniper, virginialis*  
*Juniper, virginiana burki*  
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## COMING EVENTS

### MEETING CALENDAR

October 19 to 21, Texas Rose Festival, Tyler, Tex.

October 20 to 22, Florida Nurserymen and Growers Association, annual trade show, Lido Biltmore hotel, Sarasota, Fla.

October 21 to 23, American Horticultural Council, Inc., 11th annual congress, Kellogg Center, Michigan State University, East Lansing, Mich.

October 24 to 26, Holly Society of America, meeting, Multnomah hotel, Portland, Ore.

December 3 and 4, Minnesota State Nurserymen's Association, annual meeting, Lowry hotel, St. Paul, Minn.

December 6, Pennsylvania Nurserymen's Association, Western Region, winter meeting, Hotel Webster Hall, Pittsburgh, Pa.

December 6 and 7, Arizona Association of Nurserymen, annual convention and fifth annual short course, San Marcos hotel, Chandler, Ariz.

December 10 and 11, Nebraska Association of Nurserymen, annual meeting, Cornhusker hotel, Lincoln, Neb.

December 27, Connecticut Nurserymen's Association, annual meeting, Waverly Inn, Cheshire, Conn.

### HORTICULTURAL CONGRESS

The 11th annual congress of the American Horticultural Council will be held at Kellogg Center, Michigan State University, East Lansing, October 21 to 23. Some of the highlights of the congress are as follows:

Speaker at the presidential dinner October 21 will be Dr. Harold B. Tukey, head of the department of horticulture, Michigan State University, whose topic will be "A Horticulturist Abroad." A panel on horticultural communications will include speakers employed in magazine and book publishing, radio and television and other communication media.

Chairman of the session October 22 will be Phil Alampi, president of the American Horticultural Council and secretary of agriculture of New Jersey, who will deliver the president's report. Dr. G. H. M. Lawrence, of the Bailey Hortorium, Cornell University, Ithaca, N. Y., will speak on "International Horticultural Congresses." Professors James Tyson, Carl Gerlach and Paul Krone, of Michigan State University, will act as guides on a tour of the campus, discussing, respectively, turf experiments, ornamental evergreens and experimental greenhouses.

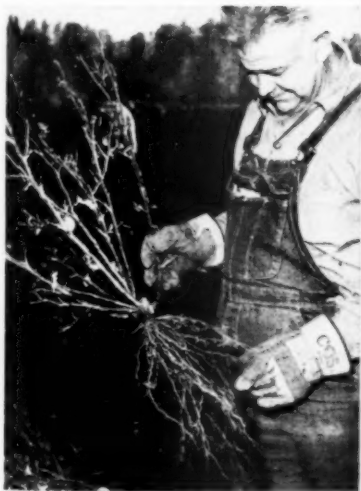
October 23, the chairman will be Donald Wyman, of the Arnold Ar-



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## FALL, 1956—SPRING, 1957 SEEDLINGS

	Per 100	Per 1000
<i>Acer palmatum</i> , transplanted understock	\$10.00	\$ 85.00
<i>Acer palmatum atropurpureum</i> , 2-yr., S., 4 to 8 ins.	20.00	150.00
<i>Acer palmatum atropurpureum</i> , 3-yr., T., 6 to 12 ins.	25.00	
<i>Acer rubrum</i> , 2-yr., S., 6 to 12 ins.	5.00	45.00

	Per 100	Per 1000
<i>Berberis thunbergii</i> , 2-yr., S., 6 to 9 ins.	\$ 5.00	\$ 35.00
<i>Berberis thunbergii</i> , 2-yr., S., 12 to 15 ins.	7.50	60.00
<i>Berberis thunbergii atropurpurea</i> , 2-yr., S., 6 to 9 ins.	6.00	50.00
2-yr., S., 9 to 12 ins.	10.00	80.00
2-yr., S., 15 to 18 ins.	12.00	100.00

<i>Helleborus niger</i> , 2-yr., S.	35.00	
<i>Ilex decidua</i> , 1-yr., S., 3 to 6 ins.	7.50	60.00
<i>Liquidambar styraciflua</i> , 2-yr., S., 12 to 24 ins.	10.00	75.00
<i>Myrica pensylvanica</i> , 2-yr., S., 6 to 10 ins.	6.00	50.00
<i>Picea abies</i> , 2-yr., S., 4 to 8 ins.	4.50	40.00
<i>Picea abies</i> , transplanted understock	10.00	85.00
<i>Picea glauca</i> , 3-yr., S., 6 to 10 ins.	5.00	40.00
<i>Picea pungens glauca</i> , 2-yr., S., 3 to 6 ins.	5.00	40.00
* <i>Pinus aristata</i> , 4-yr., S., 4 to 8 ins.	7.50	60.00
* <i>Pinus cembra</i> , T., 3 to 5 ins.	35.00	
* <i>Pinus flexilis</i> , 3-yr., S., 2 to 4 ins.	6.50	50.00
<i>Pinus mughus</i> (True Dwarf Tyrolean), 2-yr., S., 3 to 6 ins.	5.00	40.00
<i>Pinus mughus</i> (True Dwarf Tyrolean), 3-yr., S., 4 to 8 ins.	7.50	60.00
<i>Pinus pungens pumilio</i> , 2-yr., S., 3 to 5 ins.	6.00	50.00
<i>Pinus strobus</i> , 2-yr., S., 4 to 6 ins.	5.00	40.00
<i>Pinus strobus</i> , 3-yr., S., 6 to 10 ins.	6.50	50.00
<i>Pseudotsuga taxifolia glauca</i> , 2-yr., S., 3 to 6 ins.	5.00	40.00
<i>Pseudotsuga taxifolia glauca</i> , 3-yr., S., 4 to 8 ins.	6.50	50.00
<i>Quercus coccinea</i> , 1-yr., S., 4 to 8 ins.	6.00	50.00
<i>Quercus palustris</i> , 1-yr., S., 6 to 12 ins.	6.00	50.00
<i>Syringa vulgaris</i> , 3-yr., S., 12 to 30 ins.	7.50	60.00

<i>Taxus capitata</i> , 2-yr., S., 3 to 6 ins.	\$10.00	\$ 85.00
3-yr., S., 4 to 8 ins.	15.00	125.00
3-yr., T., 4 to 8 ins.	20.00	175.00

<i>Thuja orientalis</i> , 1-yr., S., 2 to 5 ins.	4.00	30.00
<i>Thuja orientalis</i> , transplanted understock	8.50	75.00
<i>Tsuga canadensis</i> , T., 4 to 6 ins.	15.00	125.00
<i>Tsuga canadensis</i> , T., 6 to 8 ins.	17.50	150.00
<i>Tsuga caroliniana</i> , 4-yr., S., 6 to 12 ins.	15.00	125.00
<i>Tsuga caroliniana</i> , transplants, 2 to 6 ins.	20.00	150.00
<i>Viburnum lantana</i> , 2-yr., S., 4 to 8 ins.	5.00	40.00
<i>Viburnum setigerum</i> , 2-yr., S., 12 to 18 ins.	15.00	125.00
<i>Viburnum wrightii</i> , 2-yr., S., 10 to 18 ins.	12.50	100.00

### Well-Established Cuttings from 2 1/4-in. Pots

	Per 10	Per 100
<i>Berberis julianae</i>	\$3.50	\$25.00
<i>Berberis julianae</i>	3.50	25.00
<i>Berberis thunbergii atropurpurea</i>	3.50	25.00
<i>Berberis verruculosa</i>	3.50	25.00
<i>Chamaecyparis cyano viridis</i>	3.00	20.00
<i>Hypericum hidcoti</i>	3.00	20.00
<i>Ilex cornuta burfordii</i>	5.00	40.00
<i>Ilex crenata convexa</i>	3.00	20.00
<i>Ilex crenata helleri</i>	3.00	20.00
<i>Ilex crenata microphylla</i>	3.00	20.00
<i>Ilex crenata rotundifolia</i>	3.00	20.00
<i>Ilex opaca</i> (4 to 6 ins. in the following named varieties)	5.00	45.00

Arden	Hedge Holly
Boyce Thompson	Joyce
Cheerful	Judge Brown
Christmas Tide	Lake City
Clark	Mae
Delia Bradley	Manig
Farage	Osas
Femina No. 16	St. Mary

<i>Ilex opaca masculina</i>	5.00	45.00
<i>Juniperus horizontalis wilsoni</i>		
glauca	3.00	20.00
<i>Juniperus pfitzeriana</i>	3.00	22.50
<i>Juniperus pfitzeriana</i>		
compacta	3.00	22.50
<i>Mahonia bealei</i>	3.00	22.50
<i>Oxydendrum arboreum</i>	3.00	22.50
<i>Pieris japonica</i>	3.00	20.00
<i>Prunus laurocerasus</i>		
schlipkaensis	5.00	40.00
<i>Taxus baccata repandens</i>	3.00	20.00
<i>Taxus cuspidata capitata</i>	3.00	22.50
<i>Taxus cuspidata F &amp; F</i>		
compacta	3.00	20.00
<i>Taxus cuspidata densiformis</i>	3.00	20.00
<i>Taxus media brownii</i>	3.00	20.00
<i>Taxus media clifforti</i>	3.00	20.00
<i>Taxus media Halloran</i>	3.00	20.00
<i>Taxus media hatfieldi</i>	3.00	20.00
<i>Taxus media henryi</i>	3.00	20.00
<i>Taxus media Hicksi</i>	3.00	20.00

	Per 10	Per 100
<i>Taxus media Moon's columnaris</i>	3.00	20.00
<i>Taxus media Vermeulen</i>	3.00	20.00
<i>Taxus media wardi</i>	3.00	20.00

### Ericaceous Plants

<i>Azalea arboreascens</i>		
2-yr., T., 6 to 10 ins.	\$3.00	\$25.00
<i>Enkianthus campanulatus</i>		
2-yr., T., 6 to 8 ins.	3.00	25.00
<i>Leucothoe catesbaei</i>		
2-yr., T., 4 to 8 ins.	3.00	25.00
<i>Pieris japonica</i>		
2-yr., T., 4 to 6 ins.	3.00	25.00
<i>Rhododendron carolinianum</i>		
2-yr., T., 4 to 8 ins.	3.00	25.00
<i>Rhododendron catawbiense</i>		
2-yr., T., 3 to 6 ins.	2.50	20.00
<i>Rhododendron hybridum</i> , red.		
2-yr., T., 3 to 6 ins.	3.50	30.00

### Bedded Stock

#### 2-year Transplants

<i>Ilex convexa</i>	4.25	35.00
<i>Ilex crenata rotundifolia</i>	4.25	35.00
<i>Taxus cuspidata densiformis</i>	4.75	40.00
<i>Taxus cuspidata F &amp; F</i>		
compacta	4.75	40.00
<i>Taxus media wardi</i>	4.75	40.00

#### 1-year Grafts from 2 1/4-in. Pots

<i>Cedrus atlantica glauca</i>	8.50	75.00
<i>Cornus florida rubra</i>	7.50	65.00
<i>Cornus florida rubra Prosser</i>	8.50	75.00
<i>Fagus sylvatica riversi</i>	7.50	65.00
<i>Hamamelis mollis</i>	7.50	65.00
<i>Juniperus chinensis sargentii</i>		
glauca	7.50	65.00
<i>Magnolia stellata rubra</i>	8.50	75.00
<i>Thuja orientalis aurea nana</i>	6.50	55.00
<i>Thuja orientalis conspicua</i>	6.50	55.00
<i>Thuja orientalis elegantissima</i>	6.50	55.00

## HESS' NURSERIES

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MOUNTAIN VIEW, N. J.

boretum, Jamaica Plain, Mass. Highlight of the final session will be a panel on "Contributions of Research," moderated by Dr. Sylvan Wittwer, Michigan State University. Advanced graduate students will give 10-minute talks on student research at the university, and Jack Hill, D. Hill Nursery Co., Dundee, Ill., will discuss "Application of Research."

The business meeting and election of new officers are scheduled for the afternoon, preceding the annual dinner of the council members.

### FLORIDA TRADE SHOW

This year's trade show of the Florida Nurserymen and Growers Association will be held October 20 to 22 at the Lido Biltmore hotel, Sarasota, Fla. The displays, which will include many new and unusual plants from members all over the state, will be open for inspection by the trade Saturday, October 20. During the afternoon the members of the association will be the guests of the Palmer Nursery, Osprey, Fla., at an old-fashioned pit barbecue. J. H. Palmer, manager of the nursery, has arranged an entertainment program that includes the Sarasota high school gymnastic circus, nationally famous for its achievements.

Sunday will see a renewal of trading until noon, at which time the public will be invited to see the displays, a policy that has proved valuable in stimulating interest in plants and landscape work. The nurserymen will enjoy a buffet dinner Sunday evening. Monday will again find the members carrying on their trading until noon.

Nurserymen and allied tradesmen from all over the country are invited to attend the F. N. G. A. trade show, one of the outstanding affairs of its kind.

### WEED CONFERENCE

The 11th annual meeting of the Northeastern Weed Control Conference will be held January 10 to 12, 1957, at the Sheraton-McAlpin hotel, New York city, N. Y. An interesting program is being planned for those concerned with weed control in such crops as corn, wheat, soybeans, pastures, vegetables, strawberries and orchards; for weed control in lawns, golf courses, nurseries, ponds and streams, and for control of woody plants and weeds along highways, railroads and power lines and around industrial establishments.

Dr. L. L. Danielson, plant physiologist at the Virginia truck experi-

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**TOUGH AS, OR TOUGHER THAN POTS MADE OF HEAVIER MATERIAL**—Bird Perennial Pots have a hard coating, inside and out, that adds to their durability and resistance to handling hazards.

**SOLID STAPLED BOTTOM**—Bird Perennial Pots are constructed with a solid stapled bottom which prevents loss of plants in handling. This bottom is carefully designed with openings to insure proper drainage.

**LOWER LANDED-COST**—Most important, too, is the freight factor which in some cases will equal the cost of the merchandise. Proximity to your source of supply will result in a substantial lower delivered cost. The Bird distributor in your area makes this lower landed-cost possible.

**LONGER SELLING SEASON**—Bird Perennial Pots lengthen your selling season, too, from three months to five months—plus giving you the opportunity to display your plants at the very peak of their bloom . . . a big merchandising advantage.

Ask your nearest distributor for detailed information and low delivered prices on this latest advance in nursery sales technique, or write us direct, Bird & Son, inc., Horticultural Dept., East Walpole, Mass., Dept. AN-10

**BIRD** **BIRD & SON, inc.**  
Established 1895

VITA-BANDS • TOM THUMB FLATS • VITA-POTS  
VITA-M POTS • RED POTS • PERENNIAL POTS

MUM PAN



Height 5"

## Recommended sizes of Bird Perennial Pots for perennials, bulbs, and shrubs\*



Aconitum  
Ajuga  
Alyssum  
Canterbury Bells  
Carnations  
Columbine, etc.  
Delphinium  
Lily of the Valley  
Narcissus  
Phlox  
Saxatile Compactum  
Shasta Daisies  
Small Mums



Aquilegia  
Asters  
Astilbe  
Boston Ivy  
Centaurea  
Chrysanthemums  
Clematis, etc.  
Day Lilies  
Honeysuckle  
Iris  
Oriental Poppies  
Roses (1 1/2 "Junior")  
Silver Lace  
Small Lilies



Azaleas  
Bleeding Heart, etc.  
Camellias  
Daphne  
Delphinium  
Easter Lilies  
Gardenias  
Gypsophila  
Hydrangeas  
Large Mums  
Lupine  
Peonies  
Roses: Hybrid Teas  
Floribundas  
2-yr. Climbers  
Thermopsis  
Tree Geranium  
Water Lilies  
Yucca

\*These are only a few of the many varieties of perennials, roses, bulbs, vines and shrubs that can be potted in Bird Perennial Pots.



# SMALL TREES (At Maturity)

For Planting Where Space Is Limited.

Per 10 Per 100

## PINKBUD (*Cercis canadensis rosea*)

New; offered now for first time. A true pink-flowering strain of the Eastern Redbud. The clear rose-pink flowers are a spectacular improvement over ordinary redbud flowers which are magenta—neither red nor pink. A highly desirable ornamental and small shade tree.

6 to 8 ft., B&B .....	\$85.00	.....
5 to 6 ft., B&B .....	65.00	.....
4 to 5 ft., B&B .....	55.00	.....
3 to 4 ft., B&B .....	45.00	.....
2 to 3 ft., B&B .....	35.00	.....

## WHITEBUD (*Cercis canadensis alba*)

White-flowering form of the Eastern Redbud. A beautiful small tree at all times but especially when in full bloom with a cloud of white flowers. No other tree can give the same effect. These trees have always been scarce and our supply is limited.

6 to 8 ft., B&B .....	85.00	.....
5 to 6 ft., B&B .....	65.00	.....
4 to 5 ft., B&B .....	55.00	.....

## GLOBE LOCUST (*Robinia pseudoacacia umbraculifera*)

A splendid small ornamental tree that develops a symmetrical, round, compact top without shearing. Makes a good shade tree when mature. Desirable for planting on streets where larger trees are not practical. Very hardy.

6-ft. stems .....	30.00	.....
5-ft. stems .....	25.00	.....

## WASHINGTON HAWTHORN (*Crataegus phaenopyrum*)

Slender tree with small leaves that turn brilliant colors in autumn. Large clusters of bright red fruit remaining on branches for a long time. A very desirable species useful for tall screens and hedges, individual specimens or where small trees are needed.

5 to 6 ft. ....	32.50	\$300.00
4 to 5 ft. ....	26.50	250.00
3 to 4 ft. ....	21.00	200.00

## GOLDEN-RAIN TREE (*Koelreuteria paniculata*)

One of the few ornamental trees that bloom in the summer. Large panicles of bright yellow flowers. Thrives in heat and drought. Picturesque and long-lived.

5 to 6 ft. ....	30.00	.....
4 to 5 ft. ....	22.50	200.00
3 to 4 ft. ....	16.50	150.00
2 to 3 ft. ....	12.50	100.00
18 to 24 ins. ....	7.00	60.00

## ROSE ACACIA, Standards (*Robinia hispida*)

Moss locust grafted on locust stems to make a small formal tree. Blooms heavily in spring with large clusters of bright pink sweet-pea flowers and occasionally throughout growing season. Desirable for formal planting, lawn specimens or when small trees are needed.

6-ft. stems .....	30.00	.....
5-ft. stems .....	25.00	.....
4-ft. stems .....	20.00	.....

## AMUR MAPLE (*Acer ginnala*)

A small shrubby tree that never gets out of bounds. Small, refined foliage. Turns brilliant scarlet in autumn. Hardy north.

6 to 8 ft. ....	27.50	250.00
5 to 6 ft. ....	22.50	200.00
4 to 5 ft. ....	16.50	150.00

## UMBRELLA CATALPA (*Catalpa bungei*)

An old-time favorite that is becoming popular again. It requires little room, never grows any taller, can be planted under utility wires and is excellent for formal planting.

5-ft. stems .....	22.50	200.00
4-ft. stems .....	18.00	165.00
3-ft. stems .....	12.50	110.00

# THE WILLIS NURSERY CO.

"Your Wholesale Nurserymen"

OTTAWA, KAN.

ment station, Norfolk, Va., is president of the conference this year.

## HOLLY SOCIETY PROGRAM

The 21st meeting of the Holly Society of America will be held at the Multnomah hotel, Portland, Ore., October 24 to 26. The program, emphasizing aspects of the holly-growing business in the Pacific Northwest, has been planned as follows:

### OCTOBER 24

Evening fellowship hour, followed by film, "Hollies in Color and Flowers from Fairyland," macrophotography by Dan Krocken, pictorial botanist.

Refreshments, courtesy of the Oregon Holly Growers' Association.

### OCTOBER 25

Buses leave Multnomah hotel for tour of Oregon's holly orchards.

Lunch at Brownell Holly Arboretum.

Tour continued in the afternoon, with return to the hotel through the older sections of Portland to view the many old hollies growing on lawns of city residences.

Banquet. Speaker: Dr. H. Harold Hume, former provost and dean emeritus of the college of agriculture of the University of Florida, Gainesville.

### OCTOBER 26

Business meeting and report of committees.

Panel discussion on "Holly Research at Oregon State College." Panelists: Dr. A. N. Roberts, department of horticulture, Oregon State College, Corvallis—"Horticultural Aspects of Holly Culture in the Pacific Northwest"; Dr. Roy A. Young, department of botany and plant pathology, Oregon State College—"Diseases of Holly in the Pacific Northwest"; Dr. L. T. Blancy, department of horticulture, Oregon State College—"Nature of Winter Injury"; Dr. K. G. Swenson, department of entomology, Oregon State College—"Insect Pests of Holly in the Pacific Northwest." The panelists will answer questions after the discussion.

Luncheon speaker Harry W. Dengler, extension forester, University of Maryland, College Park, Md., will give a talk entitled "Hollies and Folklore."

"Assembling a Holly Collection," by Dr. B. O. Mulligan, University of Washington, Seattle, Wash.

"Botanical Nomenclature," by Dr. Harold Clarke, Long Beach, Wash.

"Growing and Marketing Commercial Holly," by Alfred Teufel, president, Oregon Holly Growers' Association.

## MINNESOTA DATES

Members of the Minnesota State Nurserymen's Association will meet at the Lowry hotel, St. Paul, Minn., December 3 and 4, for the annual convention, according to an announcement by Edward S. Reid, secretary-treasurer of the association.

## ARIZONA CONVENTION

The annual convention and short course of the Arizona Association of Nurserymen will be held this year at the San Marcos hotel, Chandler,



*Jan de Graaff*

**OREGON BULB FARMS**  
**Box 512, Gresham, Oregon**

Phone: MOhawk 5-4498

**LILIES**

**AND**

**DAFFODILS**

Our large acreage of daffodils has been harvested and the bulbs graded, counted, packed and shipped. We still have some small quantities of nice bulbs for late orders. There are no more carloads going east, though, and buyers will have to count on express shipment.

We are now harvesting our lilies and already grading and packing some of the early varieties. By October 1 we will be ready to ship and from then until April 1 we will have our new golden-yellow and pink trumpet lilies; our choice Oregon-grown Gold Band and Speciosum, and many other fine hybrid lilies to offer.

Forward-looking nurserymen are planting trial collections in order to have a grand display next year. Write for our descriptive catalog, dealer's prices and planting instructions.

# HOLLAND BULBS

## of Exhibition Quality

MAIL YOUR ORDER EARLY

### TULIPS

#### Darwin Tulips

(In bags of 100)	Per 1000
Top size—13 cm. and up	\$46.00
Afterglow—Orange-salmon edge, 26 ins.	44.00
Albriht—Bright red, 24 ins.	42.00
Bartigon—Crimson-red, 24 ins.	42.00
Charles Needham—Extra-scarlet, 28 ins.	55.00
Clara Butt—Appleblossom-pink, 26 ins.	40.00
Cordell Hull—Red with white stripes	50.00
Farncombe Sanders—Rose-scarlet, 28 ins.	40.00
Greuze—Violet-blue, 26 ins.	40.00
Pride of Haarlem—Large red, 28 ins.	40.00
Princess Elizabeth—Rose-pink, 26 ins.	40.00
Prunus—Salmon-pink, 24 ins.	40.00
Queen of Night—Black, 28 ins.	40.00
Red Pitt—Scarlet, good forer, 26 ins.	46.00
Rosa Copland—Oreud, 24 ins.	40.00
Victoire d'Oliviera—Deep red, 28 ins.	42.00
Wm. Pitt—Red, 24 ins.	44.00
Yellow Giant—Deep yellow, 30 ins.	40.00
Zwanenburg—Pure white, 26 ins.	50.00
Rainbow Mixture—All colors	38.00

#### Cottage Tulips

Albino—Pure white, 22 ins.	44.00
Carrara—Purest white, 24 ins.	42.00
Dido—Orange-red with orange edge, 28 ins.	40.00
Golden Harvest—Pure, large yellow	40.00
Marjorie Bowen—Soft salmon-rose, 28 ins.	40.00
Mothers' Day—Pale yellow, 28 ins.	40.00
Princess Margaret Rose—Yellow, red edge	40.00
Rainbow—Fine Mixture	38.00

#### Pearly-flowering Tulips

Coca—Orange-red, yellow margin, 24 ins.	60.00
Ere—Old rose, very double, 28 ins.	50.00
Mt. Tacoma—Pure white, 26 ins.	50.00
Nizza—Yellow striped, feathered red,	50.00
26 ins.	50.00
Uncle Tom—Dark glittering red, 28 ins.	65.00

### HYACINTHS

(Packed 50 in a bag)

Bismarck, porcelain-blue	
King of the Blues, deep blue	
La Victoire, fine red	
L'Innocence, pure white	
Marconi, deep pink	
Ostara, medium blue	
Queen of the Blues, light blue	
Queen of the Pinks, large pink	
Yellow Hammer, golden-yellow	

Top size 18 to 19 cm.	Per 100
Extra bedding size 15 to 16 cm.	\$12.50
	8.00

### MUSCARI

(Grape Hyacinths) Top size	Per 1000
Album—White	\$20.00
	30.00

### DUTCH IRIS

Wedgewood—Light blue	10 to 11 cm.	9 to 10 cm.	8 to 9 cm.
	\$45.00	\$30.00	\$20.00
Golden Harvest—Yellow	8 to 9 cm.	7 to 8 cm.	6 to 7 cm.
	\$35.00	\$25.00	\$18.00
H. C. Van Vliet—Blue	30.00	25.00	18.00
Imperator—Deep blue	35.00	25.00	18.00
White Excelsior—White	30.00	25.00	18.00

Terms of Sale—Prices quoted F.O.B. New York or Ridgewood, N. J., including freights, duties, packing, listing and insurance.

100 at 1000 rate.

ASK FOR OUR COMPLETE WHOLESALE PRICE LIST IN BULBS AND PLANTS.

## HEEMSKERK & CO.'S Bulbs

229 Oak St. OLIVER 2-4018 RIDGEWOOD, N. J.

#### Single Tulips

(In bags of 100)	Per 1000
Top Size	
Couleur Cardinal—Dark red	\$55.00
Keizerskroon—Red with yellow border	55.00

#### Double Tulips

Electra—Wine-red	50.00
Mr. van der Hoeft—Yellow	50.00
Orange Nassau—Orange	50.00
Peachblossom—Deep pink	50.00

#### Parrot Tulips

Top size 13 cm. and up	
Black Parrot—Black, 26 ins.	60.00
Blue Parrot—Heliotrope	50.00
Fantasy—Clear pink with green stripes	50.00
Orange Favorite—Deep fragrant	46.00
Red Champion—Immense, fiery-red	60.00
Sunshine—Golden-yellow	60.00
Therese—Cherry-red (strong)	55.00

#### Triumph Tulips

Top size 13 cm. and up	
Bandoeng—Mahogany-red, yellow edge	42.00
Crater—Deep crimson-red	44.00
Crown Imperial—Crimson-red with yellow border	46.00
Edith Eddy—Red with white border	42.00
Elmus—Scarlet, creamy-white edge	45.00
Kansas—Pure white	40.00
Mr. Kerbert—Appleblossom, 26 ins.	50.00
Red Giant—(the best red)	65.00
Rhineland—Orange-yellow	44.00
Ursa Minor—Golden-yellow	48.00

#### Botanical Tulips

Eichleri—Crimson-scarlet	38.00
Red Emperor—Extra-large, scarlet	65.00

### DAFFODILS

Heavy Mother Bulbs	Per 1000
Carlton—Large open cup	\$ 80.00
Geranium poetaz—6 to 8 flowers	70.00
Golden Harvest—Very large yellow	100.00
Imperator—Large, pure white	85.00
King Alfred—Best yellow, frilled	85.00
Mount Hood—Large white	100.00
Rembrandt—Large yellow—Imp. K.A.	85.00
Scarlet Elegance—Yellow, cup deep orange	85.00
Texas—Double orange	100.00
Thalia—Pure white, 4 to 5 blooms	100.00
Mixture for Naturalizing—D. N. and Round	50.00

### CROCUS

Purpureus Grandiflorus—	9 to 10 cm.	8 to 9 cm.
Large purple	\$22.00	\$18.00
Mont Blanc—Pure white	28.00	20.00
King of the Striped—White lilac	22.00	20.00
Mammoth Yellow—Golden-yellow	22.00	20.00
Mixture—All colors	22.00	20.00
Snowdrops, nivalis		25.00
Scilla Campanulata—in 3 colors,		25.00
blue, white, pink		25.00
Chionodoxa Luciliae		20.00

Ariz., December 6 and 7. According to Fred Palm, association president, the attendance is expected to be the largest to date. Innovations this year will be a printed buyers' guide and suppliers' exhibition area.

### NEBRASKA PROGRAM

The winter meeting of the Nebraska Association of Nurserymen is scheduled for December 10 and 11, at the Cornhusker hotel, Lincoln, according to James B. Elliott, secretary.

### CONNECTICUT MEETING

The annual meeting of the Connecticut Nurserymen's Association will be held December 27, at the Waverly Inn, Cheshire, Conn., it has been announced by Erwin W. Whitham, secretary of the association.

### INTERNATIONAL SHOW

With New York city's International flower show enjoying its greatest advance sale of space in 40 years, R. B. Farnham, executive director of the show, states a steering committee of trade exhibitors can be credited in large measure for the unusual activity.

The 40th annual show will be held in the New York Coliseum, March 31 to April 6, 1957. Eighty-three per cent of the floor space in the huge building has already been allotted to exhibitors; more than 70 trade exhibitors have signed for space in the show, which will occupy two floors of the Coliseum, an area approximately the same size of all four floors in the Grand Central Palace.

Show management is closely following the advice of the trade committee, adopting a strict policy of excluding potential exhibitors whose displays are of inferior caliber and would detract from the event.

Members of the new trade steering committee are: C. Keegan, Vaughan's Seed Store, New York city; H. Handleman, Handleman's Garden Center, White Plains, N. Y.; A. Mifsud, Canal Electric Motors, Inc., New York city; H. F. Burton, International Harvester Co., New York city; M. Bassity, Jackson & Perkins Co., Newark, N. Y.; M. Arndt, Hightstown, N. J.; A. J. Raskopf, Lord & Burnham, Irvington-on-Hudson, N. Y.; K. Stedman, W. Atlee Burpee Co., Philadelphia, Pa.; R. F. Kane, Quaker Rubber Co., Philadelphia, Pa., and S. Bulpitt, Brookside Nurseries, Darien, Conn.

# FIELD-GROWN LINING-OUT STOCK

All stock grown in open field beds.

	Each Per 100	Each Per 1000
<b>Azalea mollis</b> (Chinese Azalea)		
6 to 8 ins., 2-yr., T.	\$0.22	\$0.18
8 to 10 ins., 2-yr., T.	.35	.30
10 to 12 ins., 3-yr., T.	.65	.60
<b>Azalea, Ghent</b> (pontica), pastel shades		
2 to 5 ins., 2-yr., T.	.20	.20
5 to 8 ins., 3-yr., T.	.25	.25
8 to 10 ins., 3-yr., T.	.45	..
<b>Azalea kaempferi</b>		
2-yr., T., field bed	.28	.25
6 to 8 ins., 3-yr., T.	.38	..
<b>Azalea mucronulatum</b> , lavender		
1-yr., bed, T.	.25	.22
4 to 8 ins., 2-yr., T.	.35	.32
8 to 10 ins., 2-yr., T.	.45	..
10 to 15 ins., 3-yr., T.	.65	..
<b>Azalea schlippenbachii</b> , bright, pink blossoms		
2-yr., field bed, T.	.28	.25
3-yr., field bed, T.	.35	.32
<b>Buxus sempervirens welleri</b> (Weller's Hardy Boxwood)		
1-yr., field bed, T.	.22	.20
4 to 6 ins., 2-yr., T.	.28	.25
6 to 8 ins., 2-yr., T.	.35	.32
8 to 10 ins., 3-yr., T.	.45	..
<b>Chamaecyparis filifera aurea</b>		
6 to 10 ins., 2-yr., T.	.35	..
<b>Chamaecyparis lawsoniana allumi</b>		
6 to 8 ins., 1-yr., T.	.25	.22
8 to 10 ins., 2-yr., T.	.30	.28
10 to 15 ins., 3-yr., T.	.45	..
<b>Chamaecyparis plumosa aurea</b>		
4 to 6 ins., 1-yr., T.	.25	.22
6 to 8 ins., 2-yr., T.	.35	.30
8 to 10 ins., 3-yr., T.	.40	.35
10 to 15 ins., 3-yr., T.	.50	.45
<b>Euonymus fortunei carrierei</b>		
12 to 15 ins., 3-yr., T.	.35	.30
<b>Euonymus fortunei coloratus</b> Procumbent, broad-leaved creeper.		
6 to 10 ins., 2-yr., T.	.25	.20
12 to 15 ins., 2-yr., T.	.35	.30
<b>Euonymus fortunei erectus</b> (Big-leaved Winter Creeper)		
10 to 12 ins., 2-yr., T.	.25	.22
12 to 15 ins., 2-yr., T.	.35	.30
15 to 18 ins., 3-yr., T.	.45	..
<b>Euonymus radicans coloratus</b> Small-leaved, procumbent creeper. Fast cover.		
10 to 15 ins., 2-yr., T.	.25	.20
12 to 15 ins., 3-yr., T.	.35	.30
<b>Euonymus radicans vegetus</b>		
6 to 8 ins., 1-yr., T.	.18	.16
8 to 12 ins., 2-yr., T.	.30	..
10 to 15 ins., 3-yr., T.	.45	..
<b>Ilex crenata</b> (Japanese Holly), pyramidal		
4 to 6 ins., 1-yr., T.	.20	.18
6 to 8 ins., 1-yr., T.	.25	.20
8 to 10 ins., 2-yr., T.	.35	..
10 to 12 ins., 3-yr., T.	.45	..
<b>Ilex crenata convexa</b> (bullata)		
6 to 8 ins., 1-yr., T.	.25	.22
8 to 10 ins., 2-yr., T.	.38	.35
10 to 12 ins., 2-yr., T.	.48	.45
12 to 15 ins., 3-yr., T.	.65	.55
<b>Ilex crenata hetzi</b> An improved convexa.		
6 to 8 ins., 2-yr., T.	.30	.28
8 to 10 ins., 2-yr., T.	.40	.38
10 to 15 ins., 3-yr., T.	.55	.50
<b>Ilex crenata helleri</b> (Heller's Dwarf Holly)		
3 to 6 ins., 2-yr., T.	.35	.32
6 to 8 ins., 3-yr., T.	.45	.40
8 to 10 ins., 3-yr., T.	.65	.60
<b>Ilex rotundifolia</b> (Round-leaved Japanese Holly)		
3 to 6 ins., 1-yr., T.	.20	.18
6 to 8 ins., 1-yr., T.	.25	.22
8 to 10 ins., 2-yr., T.	.38	.35
10 to 15 ins., 2-yr., T.	.48	.45
12 to 15 ins., 3-yr., T.	.70	.60
cutback		

## SEEDLINGS

### Blue Spruce (Picea pungens)

	Per 100	Per 1000	Per 1000 at rate
6 to 8 ins., 2-yr., S.	\$10.00	\$40.00	..
4 to 6 ins., 2-yr., S.	8.00	30.00	\$25.00
2 to 4 ins., 2-yr., S.	6.00	25.00	20.00

### Norway Spruce

	Per 100	Per 1000	Per 1000 at rate
6 to 10 ins., 2-yr., S.	8.00	28.00	25.00
4 to 6 ins., 2-yr., S.	6.00	22.00	20.00
2 to 4 ins., 2-yr., S.	5.00	18.00	15.00

(Once transplanted—  
see elsewhere on this list.)

### Scotch Pine

	Per 100	Per 1000	Per 1000 at rate
8 to 12 ins., 2-yr., S.	8.00	30.00	28.00
4 to 8 ins., 2-yr., S.	6.00	25.00	20.00
2 to 4 ins., 2-yr., S.	5.00	20.00	18.00
2 to 6 ins., 3-yr., T.	10.00	40.00	30.00

### Austrian Pine

	Per 100	Per 1000	Per 1000 at rate
4 to 8 ins., 2-yr., S.	8.00	25.00	20.00
2 to 4 ins., 2-yr., S.	6.00	20.00	18.00

(Once transplanted—see elsewhere  
on this list.)

100 at 100 rate; 1000 at 1000 rate;  
5000 and up at 10,000 rate.

	Each Per 100	Each Per 1000
<b>Juniper, Andorra</b> (Purple Andorra Juniper)		
6 to 8 ins., 1-yr., T.	\$0.30	..
10 to 12 ins., 2-yr., T.	.45	\$0.40
12 to 15 ins., 3-yr., T.	.50	.45
<b>Juniperus canadensis aurea</b> (Golden Canadian Juniper)		
4 to 6 ins., 1-yr., T.	.25	..
6 to 8 ins., 2-yr., T.	.35	..
8 to 10 ins., 3-yr., T.	.45	..
<b>Juniperus glauca hetzi</b> (Hetzi Juniper)		
8 to 10 ins., 2-yr., T.	.35	.30
10 to 12 ins., 3-yr., T.	.45	.40
12 to 15 ins., 3-yr., T.	.55	.50
15 to 18 ins., 3-yr., T.	.70	..
<b>Juniperus communis hibernica</b> (Irish Juniper)		
15 to 18 ins., 4-yr., T.	.53	.50
<b>Juniperus communis hibernica fastigata</b> (Compact Irish Juniper)		
8 to 10 ins., 2-yr., T.	.35	.30
10 to 12 ins., 3-yr., T.	.45	.40
12 to 15 ins., 3-yr., T.	.55	.50
15 to 18 ins., 3-yr., T.	.70	..
<b>Juniperus horizontalis glauca</b>		
6 to 8 ins., 2-yr., T.	.35	.32
8 to 10 ins., 2-yr., T.	.40	..
10 to 15 ins., 3-yr., T.	.55	..
<b>Juniperus pfitzeriana compacta</b> (Nelson's variety). Gray-blue Pfitzer. Shears compactly and develops quickly, with good, fibrous roots.		
6 to 8 ins., 1-yr., T.	.35	.30
8 to 10 ins., 2-yr., T.	.45	..
10 to 15 ins., 3-yr., T.	.65	..
<b>Juniperus pfitzeriana, regular</b>		
8 to 10 ins., 2-yr., T.	.45	..
10 to 15 ins., 2-yr., T.	.55	..
15 to 18 ins., 3-yr., T.	.65	..
<b>Juniperus pfitzeriana aurea</b>		
8 to 10 ins., 2-yr., T.	.45	..
10 to 15 ins., 3-yr., T.	.65	..

	Each Per 100	Each Per 1000
<b>Juniperus squamata meyeri</b> (Meyer's Juniper)		
4 to 8 ins., 2-yr., T.	\$0.25	..
8 to 12 ins., 3-yr., T.	.50	..
<b>Juniperus stricta</b>		
4 to 8 ins., 1-yr., T.	.35	\$0.32
8 to 12 ins., 3-yr., T.	.45	.48
<b>Leucothoe catesbaei</b> (Drooping Leucothoe)		
6 to 8 ins., 2-yr., T.	.25	.20
8 to 10 ins., 3-yr., T.	.35	.30
10 to 12 ins., 3-yr., T.	.45	..
12 to 15 ins., 3-yr., T.	.55	..
<b>Liquidambar styraciflua</b> (Sweet Gum)		
8 to 12 ins., 2-yr., T.	.15	.12
12 to 18 ins., 2-yr., T.	.20	.18
18 to 24 ins., 3-yr., T.	.25	.30
<b>Picea excelsa</b> (Norway Spruce)		
4 to 6 ins., 3-yr., T.	.12	.10
6 to 8 ins., 3-yr., T.	.15	.12
8 to 10 ins., 4-yr., T.	.20	.18
10 to 15 ins., 4-yr., T.	.25	.20
<b>Picea pungens</b> (Colorado Blue Spruce)		
3 to 6 ins., 3-yr., T.	.90	..
6 to 8 ins., 4-yr., T.	.28	..
<b>Pieris floribunda</b> (Mountain Andromeda)		
3 to 6 ins., 2-yr., T.	.25	.20
6 to 8 ins., 2-yr., T.	.30	..
8 to 12 ins., 2-yr., T.	.45	..
<b>Pieris japonica</b> (Japanese Andromeda)		
6 to 8 ins., 2-yr., T.	.28	.25
8 to 10 ins., 2-yr., T.	.35	..
10 to 15 ins., 4-yr., T.	.65	..
<b>Pinus mugo</b> (Dwarf Mugo Pine)		
2 to 5 ins., 2-yr., S.	.12	.10
4 to 8 ins., 3-yr., T.	.25	..
<b>Pyracantha coccinea inlandi</b>		
6 to 8 ins., 1-yr., T.	.25	..
8 to 12 ins., 2-yr., T.	.32	.30
<b>Rhododendron Hybrids</b> , various colors, from red plants. Seed- ling grown. Very hardy.		
2-yr., field bed, T.	.35	.32
3 to 5 ins., 3-yr., T.	.45	..
5 to 8 ins., 4-yr., T.	.55	..
8 to 10 ins., 4-yr., T.	.65	..
10 to 12 ins., 4-yr., T.	1.00	..
<b>Sophora japonica</b>		
1-yr., S.	.12	.08
4 to 8 ins., 2-yr., T.	.20	.18
<b>Taxus cuspidata</b> (Spreading Yew)		
6 to 8 ins., 2-yr., T.	.38	.35
8 to 10 ins., 2-yr., T.	.45	..
10 to 15 ins., 3-yr., T.	.75	..
<b>Taxus media brownii</b> (Brown's Yew)		
6 to 8 ins., 2-yr., T.	.35	..
8 to 10 ins., 2-yr., T.	.45	..
<b>Taxus media hickii</b> (Hicks' Yew)		
6 to 8 ins., 2-yr., T.	.35	..
8 to 12 ins., 3-yr., T.	.45	..
<b>Thuja occidentalis douglasii aurea</b> (Golden Arborvitae)		
6 to 8 ins., 2-yr., T.	.35	.32
8 to 10 ins., 3-yr., T.	.45	..
<b>Thuja occidentalis elegantissima lutea</b> golden tip over dark green foliage.		
6 to 8 ins., 2-yr., T.	.35	.30
8 to 10 ins., 2-yr., T.	.40	.35
10 to 12 ins., 3-yr., T.	.45	.40
12 to 15 ins., 4-yr., T.	.55	.50
<b>Thuja occidentalis globosa</b> (Woodward Globe Arborvitae)		
6 to 8 ins., 1-yr., T.	.25	..
8 to 12 ins., 2-yr., T.	.40	.35
<b>Thuja occidentalis pyramidalis</b>		
10 to 12 ins., 2-yr., T.	.45	..
12 to 15 ins., 3-yr., T.	.55	..
<b>Tsuga canadensis</b> (Hemlock)		
4 to 6 ins., 3-yr., T.	.35	.32
6 to 8 ins., 3-yr., T.	.25	.22
8 to 12 ins., 4-yr., T.	.80	.28
<b>Viburnum opulus</b> (Snowball), red berries, fall.		
2-yr., T., cutback	.18	.12
10 to 18 ins., 3-yr., T.	.18	.12
18 to 24 ins., 3-yr., T.	.25	.30
<b>Viburnum opulus nana</b> (Dwarf Rush Cranberry)		
2-yr., field, T.	.25	.30
6 to 8 ins., 3-yr., T.	.35	.32
8 to 10 ins., 4-yr., T.	.45	.42
10 to 12 ins., 4-yr., T.	.85	.50

Lining-out Stock. 25 at the 100 Rate. 300 at the 1000 Rate.

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## COVER ILLUSTRATION

### Stewartia Koreana

It is always difficult to know whether some plants should be classified as shrubs or trees because they have the general form of a shrub, except for the short trunk that is usually in evidence. The Korean stewartia, *Stewartia koreana*, is of this nature with its semiupright branching and broad oval head.

This shrubby tree is often listed as reaching a maximum height of 40 feet or more, but this is a rarity, and a height of 15 to 25 feet is more practical to use for landscape purposes. The bark, or its absence, is one of the most interesting features, since it flakes off to give a mottled or camouflaged appearance that reminds one of the sycamore and plane trees. The coloration is different, because the only tones and colors evident are light and dark grays and tinges of brown and orange brown.

The simple leaves are alternately arranged and of a gray-green color, with rather prominent veining. The autumn colors are soft bronzes or orange reds blending into gray greens. *S. koreana* must be watered in dry weather, though, or the colors (fall or summer) will be crisp, burned browns.

This excellent plant, all too little used, was introduced into cultivation about the end of World War I. Another of its features is the unusual and appropriate flowering time. The white flowers, with prominent, rich yellow stamens, measure nearly three inches in diameter and make their first appearance on Long Island, N. Y., about June 20 to 22. The greatest profusion of flowers occurs about July 1, and the last of the flowering is from July 10 to 15. The fruits that follow are dehiscent woody capsules and of little ornamental value.

It is an ideal plant for a section of the shrub border that needs height, but should not be crowded with vigorous-growing shrubs because it will not do well with that much root and top competition. When planted with deciduous azalea, enkianthus, clethra, blueberries and black alder or common winterberry, it should thrive.

Dr. Rehder listed the plant in zone 5 as its zone of hardiness, and it has been a healthy plant in the Arnold Arboretum for many years. The Korean stewartia is not so available in the nursery trade, unfortunately,

DAK

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TULIPS and CROCUS — 100 of a variety and size at 1000 rate.  
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Orders should be in multiples of 50, 100 or 250 as shown above.

## DARWIN TULIPS

	12 cm. 11 to and up 12 cm.	\$50.00 \$42.00
AFTERGLOW, orange-rose	45.00	40.00
ALLBRIGHT, bright red	50.00	42.00
ARISTOCRAT, soft violet-rose	45.00	40.00
BARTIGON MAX, clear crimson	45.00	40.00
BLEU AIMABLE, heliotrope-blue	45.00	40.00
CAMPFIRE, blood-red	45.00	40.00
CHARLES NEEDHAM, vermillion	55.00	45.00
CITY OF HAARLEM, large deep red	60.00	55.00
CLARA BUTT, salmon-pink	45.00	40.00
DEMETER, deep violet-blue	50.00	42.00
FARNCOMBE SANDERS, bright red	45.00	40.00
GIANT, purple-violet, large	50.00	42.00
GLACIER, fine ivory-white	50.00	42.00
GOLDEN AGE, deep golden-yellow	50.00	42.00
INSURPASSABLE, lilac	50.00	42.00
LA TULIPE NOIRE, maroon-black	45.00	40.00
MARGAUX, deep wine-red	50.00	45.00
MRS. GRULLEMANS, creamy-white	45.00	40.00
NIPHOTOS, soft sulphur-yellow	50.00	42.00
PHILIP SNOWDEN, carmine-rose	45.00	40.00
PRIDE OF HAARLEM, cerise	45.00	40.00
PRIDE OF ZWANENBURG, rose	50.00	42.00
PRINCESS ELIZABETH, rose-pink	45.00	40.00
PRUNUS, salmon-pink	45.00	40.00
PURPLE COPLAND, purple	45.00	40.00
QUEEN OF NIGHT, velvet maroon	45.00	40.00
RED PITT, bright red	45.00	40.00
SCARLET LEADER, brilliant red	50.00	42.00
SCOTCH LASSIE, deep lavender	45.00	40.00
THE BISHOP, purple-violet	50.00	42.00
WM. COPLAND, bright lavender	45.00	40.00
WM. PITT, cochineal-red	45.00	40.00
WHITE DUCHESSE, pure white	45.00	40.00
YELLOW GIANT, golden-yellow	45.00	40.00
ZWANENBURG, pure white	45.00	40.00
RAINBOW DARWIN MIXTURE	40.00	35.00

## PARROT TULIPS

BLACK PARROT, glossy black	50.00	42.00
BLUE PARROT, heliotrope-blue	50.00	42.00
DISCOVERY, violet, edged white	55.00	50.00
FANTASY, soft rose, green markings	50.00	45.00
FIREBIRD, intense fire-red	50.00	45.00
GADELAN, violet-mauve	80.00	75.00
ORANGE FAVORITE, orange	50.00	45.00
PIERSON PARROT, deep blood-red	40.00	50.00
RED CHAMPION, bright crimson	40.00	50.00
SUNSHINE, deep golden-yellow	40.00	55.00
THERESA, cochineal-red	55.00	50.00
VIOLET QUEEN, pearl-blue	40.00	55.00
RAINBOW PARROT MIXTURE	55.00	45.00

## HYACINTHS

	Per 1000
BISMARCK, sky-blue, early	
CITY OF HAARLEM, yellow	
DELFT BLUE, porcelain-blue	
DR. STRESEMANN, large, bright, clear blue. Fine for pots.	19-cm. and up \$135.00
GRAND MAITRE, lavender-blue	18 to 19-cm. 120.00
JAN BOS, bright red, early	
KING OF THE BLUES, dark blue	17 to 18-cm. 100.00
LADY DRBY, light pink	
LA VICTOIRE, bright carmine	16 to 17-cm. 85.00
L'INNOCENCE, pure white	
MARCONI, deep rosy-pink	15 to 16-cm. 70.00
OSTARA, deep blue, early	
PINK PEARL, bright rose	14 to 15-cm. 60.00
QUEEN OF THE PINKS, pink	

## NARCISSI

	D.N. No. 1	D.N. No. 2	D.N. No. 3
BEERSHEBA (Trumpet), finest, purest white. Good forcer.	\$150.00	\$125.00	\$75.00
CARLTON (Incomparabilis), yellow, frilled cup.	85.00	45.00	45.00
CHEERFULNESS (Poetaz), double white, late forcer.	75.00	60.00	45.00
FORTUNE (Incomparabilis), deep yellow, orange cup.	85.00	45.00	45.00
GERANIUM (Poetaz), white perianth, orange-red cup.	75.00	40.00	45.00
GOLDEN HARVEST (Trumpet), golden-yellow, large.	100.00	85.00	75.00
IMPERATOR (Trumpet), white perianth, cream trumpet.	95.00	80.00	65.00
INGLESOMBE (Double), soft canary-yellow	85.00	45.00	45.00
KING ALFRED (Trumpet), golden-yellow	70.00	70.00	45.00
LAURENS KOSTER (Poetaz), white perianth, orange cup	65.00	50.00	45.00
MAGNIFICENCE (Trumpet), deep golden-yellow	85.00	45.00	45.00
MOUNT HOOD (Trumpet), pure white, very large.	150.00	130.00	100.00
MRS. R. O. BACKHOUSE (Trumpet), white, pink trumpet	100.00	70.00	45.00
REMBRANDT (Trumpet), golden-yellow, large flower.	100.00	70.00	45.00
SCARLET ELEGANCE (Incomparabilis), yellow petals, orange cup	85.00	45.00	45.00
SPRING GLORY (Trumpet), white, yellow trumpet.	85.00	70.00	45.00
TEXAS (Double), yellow and fiery-orange	85.00	70.00	50.00
TWINK (Double), primrose perianth, orange center.	85.00	70.00	50.00
MIXTURE OF TRUMPET VARIETIES ONLY	85.00	45.00	45.00
MIXTURE OF ALL TYPES	75.00	60.00	45.00

## COTTAGE TULIPS

	12-cm. 11 to and up 12-cm.	\$50.00 \$42.00
ADVANCE, scarlet, shaded cerise	45.00	40.00
ALBINO, pure white, large	45.00	40.00
CARRARA, pure white	45.00	40.00
GOLDEN HARVEST, soft yellow	45.00	40.00
G. W. LEAK, geranium lake	50.00	42.00
INGLESOMBE YELLOW, yellow	45.00	40.00
MARSHAL HAIG, brilliant scarlet	50.00	42.00
MRS. J. T. SCHEEPERS, yellow	50.00	42.00
NORTHERN QUEEN, white and pink	50.00	45.00
OSSI OSWALDA, white and rose	45.00	40.00
PRINCESS MARGARET ROSE, yellow, edged red	45.00	40.00
RAINBOW COTTAGE MIXTURE	45.00	40.00

## REMBRANDT (BIZARRE) TULIPS

AMERICAN FLAG, red and white	40.00	55.00
CORDELL HULL, red, streaked white	50.00	45.00
MONTGOMERY, white, edged red	50.00	45.00

## HOLLAND-GROWN LILIES

	Per 100 Per Case
LILIAM REGALE	
6 to 7-in., 400 per case	\$ 6.00 \$20.00
7 to 8-in., 250 per case	9.00 20.00
8 to 9-in., 200 per case	11.00 20.00
9 to 10-in., 150 per case	14.00 20.00
10 to 11-in., 100 per case	21.00 20.00
LILIAM REGALE HYBRID G. C. CREELMAN	
LILIAM REGALE ALBUM	
LILIAM CENTIFOLIUM	
LILIAM HENRY	
All Above Varieties:	Per 100 Per Case
6 to 7-in., 400 per case	\$ 7.50 \$25.00
7 to 8-in., 250 per case	11.00 25.00
8 to 9-in., 200 per case	13.50 25.00
9 to 10-in., 150 per case	18.00 25.00
10 to 11-in., 100 per case	26.00 25.00
LILIAM ORANGE TRIUMPH	
LILIAM WILLMOTTIAE IMPROVED	
LILIAM SUTCHUENSE	
LILIAM MAXWILL	
LILIAM TIGRINUM SPLENDENS	
7 to 8-in.: \$15.00 per 100; \$135.00 per 1000.	

## BREEDER TULIPS

	12-cm. 11 to and up 12-cm.	\$45.00 \$40.00
DILLENBURG, apricot-orange	50.00	42.00
GEORGE GRAPPE, lavender-mauve	50.00	42.00
LOUIS XIV, purple, bronze fringe	55.00	50.00
ORANGE DELIGHT, clear bronze	55.00	50.00
TANTALUS, yellow and purple	55.00	50.00
VELVET KING, red-purple	50.00	45.00
RAINBOW BREEDER MIXTURE	50.00	40.00

## SINGLE EARLY TULIPS

	12-cm. 11 to and up 12-cm.	\$45.00 \$35.00
COULEUR CARDINAL, deep red	50.00	45.00
GENERAL DE WET, bright orange	50.00	45.00
IBIS, deep pink, white markings	50.00	45.00
KEIZERSKROON, red, yellow edge	50.00	45.00
OLYMPIADE, extra-fine yellow	50.00	45.00
PRINCE CARNAVAL, red and yellow	50.00	45.00
PRINCE OF AUSTRIA, orange-red	50.00	45.00
WHITE HAWK, pure white	55.00	50.00
RAINBOW MIXTURE	50.00	45.00

## DOUBLE EARLY TULIPS

BONANZA, red, edged yellow	50.00	40.00
ELECTRA, deep cherry red	55.00	45.00
WARECHAL NIEL, yellow	50.00	40.00
MR. VAN DER HOEF, pure yellow	55.00	45.00
MURILLO MAX, white, flushed pink	55.00	45.00
ORANGE NASSAU, orange-scarlet	55.00	45.00
PEACHBLOSSOM, deep rose	55.00	45.00
SCHOONOORD, pure white	55.00	45.00
RAINBOW MIXTURE	55.00	45.00

## DOUBLE LATE TULIPS

	Top Size	50.00 45.00
COXA, carmine, edged white	50.00	42.00
EROS, old rose	50.00	42.00
MOUNT TACOMA, pure white	50.00	42.00
NIZZA, red with yellow stripes	50.00	42.00
SYMPHONIA, carmine-rose	45.00	40.00
UNCLE TOM, deep blackish-red	50.00	42.00
RAINBOW MIXTURE	50.00	42.00

## LILY-FLOWERED TULIPS

CAPTAIN FRYATT, garnet-red	75.00	70.00
GOLDEN DUCHESSE, primrose-yellow	45.00	40.00
MARIETTE, deep satin rose	50.00	45.00
WHITE DUCHESSE, pure white	45.00	40.00

## BOTANICAL (SPECIES) TULIPS

	Top Size	\$60.00
CLUSIANA, crimson and white	35.00	
EICHLERI, crimson-red	35.00	
KAUFMANNIANA, yellowish, exterior pink	50.00	
MARJOLETTI, red base, yellow edge	45.00	
ORPHANIDEA, bronze-orange, green center	70.00	

## FOSTERIANA TYPE:

	12-cm. 11 to and up 12-cm.	\$55.00 \$45.00
PRINCEPS, orange-red	50.00	45.00
RED EMPEROR, scarlet	50.00	45.00

## PRESTANS TYPE:

	Top Size	\$ 80.00
PRESTANS, carmine, multiflowered	150.00	
FUSILIER, improved type, dwarf habit.		

## CROCUS

	7 to 8-cm.	8 to 9-cm.	9 to 10-cm.	10 to 11-cm.
BLUE or PURPLE	\$12.00	\$14.00	\$16.00	\$20.00
STRIPED	12.00	14.00	16.00	20.00
WHITE	14.00	18.00	22.00	25.00
YELLOW	14.00	18.00	22.00	25.00
MIXED COLORS	13.00	16.00	19.00	22.00

## DUTCH IRIS

	Per 100 Per 1000
WEDGWOOD, well-graded, healthy stock	
8 to 9-cm.	\$2.00 \$15.00
8 1/2 to 9-cm.	2.50 17.50
9 to 10-cm.	3.00 20.00
10 to 11-cm.	5.50 47.50

	and up 8-cm.	7-cm.
GOLDEN EMPEROR, deep yellow	\$30.00	\$20.00
GOLDEN HARVEST, fine golden-yellow	30.00	20.00
H. G. VAN VLIET, early dark blue	30.00	20.00
IMPERATOR, late dark blue	30.00	20.00
WHITE ECELSIOR, pure white, late	22.00	15.00
WHITE SUPERIOR, pure white, large flower	25.00	20.00
YELLOW QUEEN, pure yellow, late	30.00	25.00
DUTCH IRIS—RAINBOW MIXTURE, all colors	25.00	15.00
CAJANUS (Spanish Iris) dark yellow, late.		

Top Size, \$20.00 per 1000  
IRIS RETICULATA, violet-blue, sweet-scented.  
Top Size, \$20.00 per 1000

## MISCELLANEOUS BULBS

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CHIONODOXA Luciliae (Glory-of-the-Snow), lilac-blue	\$ 2.00	\$15.00
ERANTHIS Hyemalis (Winter Aconite), golden-yellow	3.00	25.00
FRITILLARIA Imperialis (Crown Imperial), mixed	65.00	
FRITILLARIA Meleagris (Guinea-Hen Flower), mixed colors	2.50	20.00
GALANTHUS (Snowdrops) single type	3.00	25.00
GALANTHUS NIVALIS PLENUS (Snowdrops) double	4.50	40.00
MUSCARI Armeniacum or Heavenly Blue (Grape Hyacinth)	2.00	15.00
MUSCARI Botryoides Alba (Grape Hyacinth), pure white	2.50	20.00
SCILLA Campanulata, white, blue, pink or mixed	3.00	25.00
SCILLA Sibirica (Siberian Squill), sky-blue	3.00	25.00
SCILLA Spring Beauty, larger and taller than Sibirica	5.50	50.00

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	Per 100	Per 1000
<i>Taxus baccata repandens</i> , 1-yr., 2 1/4-in. rose pot, 3 to 5 ins. ....	\$25.00	\$230.00
<i>Taxus cuspidata</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	18.00	170.00
<i>Taxus cuspidata</i> , 2-yr., 2 1/4-in. rose pot, 5 to 12 ins. ....	24.00	220.00
<i>Taxus cuspidata capitata</i> , seedling-grown, 3-yr., 2 1/4-in. rose pot, 3 to 6 ins. ....	22.50	200.00
<i>Taxus cuspidata capitata</i> , seedling-grown, 3-yr., 2 1/4-in. rose pot, 4 to 8 ins. ....	27.50	250.00
<i>Taxus cuspidata Vermeulen</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	20.00	180.00
<i>Taxus intermedia</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	18.00	170.00
<i>Taxus intermedia</i> , 2-yr., 2 1/4-in. rose pot, 5 to 12 ins. ....	24.00	220.00
<i>Taxus media Adams</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	18.00	170.00
<i>Taxus media Adams</i> , 2-yr., 2 1/4-in. rose pot, 5 to 12 ins. ....	24.00	220.00
<i>Taxus media browni</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	20.00	180.00
<i>Taxus media browni</i> , 2-yr., 2 1/4-in. rose pot, 5 to 12 ins. ....	25.00	230.00
<i>Taxus media hatfieldi</i> , No. 18, 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	20.00	180.00
<i>Taxus media hatfieldi</i> , No. 18, 2-yr., 2 1/4-in. rose pot, 5 to 12 ins. ....	25.00	230.00
<i>Taxus media hicksi</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	18.00	170.00
<i>Taxus media hicksi</i> , 2-yr., 2 1/4-in. rose pot, 5 to 12 ins. ....	24.00	220.00
<i>Taxus media Moon's</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	18.00	170.00
<i>Taxus media Moon's</i> , 2-yr., 2 1/4-in. rose pot, 5 to 12 ins. ....	24.00	220.00
<i>Taxus media thayerae</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	18.00	170.00
<i>Taxus media thayerae</i> , 2-yr., 2 1/4-in. rose pot, 5 to 12 ins. ....	24.00	220.00
<i>Taxus media wardi</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	22.50	200.00
<i>Taxus media wardi</i> , 2-yr., 2 1/4-in. rose pot, 5 to 12 ins. ....	27.50	250.00
<i>Taxus media wellesleyana</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	18.00	170.00
<hr/>		
<i>Juniperus Andorra compacta</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	20.00	180.00
<i>Juniperus chinensis pfitzeriana</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	25.00	225.00
<i>Juniperus chinensis pfitzeriana glauca</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	27.50	250.00
<i>Juniperus glauca hetzi</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	20.00	180.00
<i>Juniperus glauca hetzi</i> , 2-yr., 2 1/4-in. rose pot, 5 to 12 ins. ....	27.50	250.00
<i>Juniperus Irish fastigiata</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	20.00	180.00
<hr/>		
<i>Thuja Douglas Golden</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	20.00	.....
<i>Thuja occidentalis elegantissima</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	20.00	180.00
<i>Thuja occidentalis Globe</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	20.00	.....
<i>Thuja occidentalis pyramidalis</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	18.00	170.00
<i>Thuja occidentalis Siberian</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	18.00	.....
<i>Thuja occidentalis woodwardi</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	18.00	170.00
<hr/>		
<i>Ilex convexa bullata</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	20.00	180.00
<i>Ilex convexa bullata</i> , 2-yr., 2 1/4-in. rose pot, 4 to 8 ins. ....	25.00	240.00
<i>Ilex crenata hetzi</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	18.00	170.00
<i>Ilex crenata hetzi</i> , 2-yr., 2 1/4-in. rose pot, 6 to 12 ins. ....	22.00	200.00
<i>Ilex crenata rotundifolia</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	18.00	170.00
<i>Ilex crenata rotundifolia</i> , 2-yr., 2 1/4-in. rose pot, 4 to 8 ins. ....	22.00	200.00
<i>Ilex crenata Stokes Pat. 887</i> , 2-yr., 2 1/4-in. rose pot, 2 to 4 ins. ....	35.00	300.00
<i>Ilex glabra</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins. ....	18.00	170.00
<hr/>		
<i>Taxus capitata</i> , seedling-grown, 2-yr., 2 to 3 ins. ....	\$ 6.00	\$50.00
<i>Taxus capitata</i> , seedling-grown, 2-yr., 3 to 6 ins. ....	10.00	90.00

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C. E. L.

### MORDEN FARM CHANGE

Dr. C. C. Strachan, for the past 20 years senior food technologist at the experimental farm, Summerland, B. C., Canada, has been named superintendent at the experimental farm at Morden.

Dr. Strachan was born at Portland, Ore., and, at the age of 3, moved with his parents to Saskatchewan. He attended the public schools at Kamloops and later the University of British Columbia, graduating in 1931 with the degree of B.S. After graduation he was appointed assistant at the experimental farm, Summerland. In 1935 he obtained his master of science degree in food technology from Oregon State College. On returning to the experimental farm he was closely associated with the fruit and vegetable processing laboratory. Later, in 1940, Dr. Strachan was awarded the doctor of philosophy degree in food technology by the University of Massachusetts.

During World War II Dr. Strachan spent much time at Ottawa, and Kentville, Nova Scotia, working on the dehydration of fruit for the armed services.

Besides his knowledge and research work in fruit and vegetable processing, Dr. Strachan has spent considerable time in general horticulture and is well qualified for his new duties at Morden.

### ELM BARK BEETLE STUDY

Appointment of Charles C. Doane to the department of entomology staff at the Connecticut agricultural experiment station, New Haven, was announced by Director James G. Horsfall. Dr. Doane will study biology and control of the elm bark beetle, the insect responsible for the spread of Dutch elm disease. He will also conduct research on other pests of woodland trees and their environment.

Dr. Doane is a graduate of the Ontario Agricultural College, Guelph, Ont., and his graduate study was at the University of Wisconsin, Madison. Most recently he had been for three years with the Shell Chemical Corp.

PAUL FRESE, former editor of Popular Gardening magazine, is doing public relations work for Breck's, Boston, Mass.

# Important Announcement for Lawn Supply Dealers

*The competitive trend to "price merchandising" can mean just one thing to retailers: a one-way street to lower and lower profit per unit of sale. It means a continued scramble for more and more volume to keep profits stable from year to year.*

*Wouldn't you like a selling plan that reverses this trend . . . that not only gets the sale, but can double your profit per unit of sale? It's the logical way to assure a solid, successful business future.*

Whitney Seed Co., Inc. has devised a unique plan to help your lawn seed department pull extra profit for you. We call it the **UPGRADER Plan** . . . a new technique to persuade more people to buy your most profitable Whitney Seed mixture. Here is how it works:

Attracting customers is made easy by offering Whitney's "2-star" City Park mixture, with its attractive low price. This mixture assures a good stand of healthy grass. It's a good buy.

But the **UPGRADER** merchandising material doesn't mislead the customer. It shows the ideal situation for City Park as temporary type grass best suited to areas of extreme wear and tear where re-seeding is often necessary.

The **UPGRADER** Plan automatically shows and tells the customer that Whitney's "3-star" Pan American lawn seed provides even better results. This seed costs more, of course. But it also offers more permanence . . . and because it contains more seed per pound, the cost per thousand square feet of lawn is virtually the same as City Park. That makes it a better buy for your customer . . . yet with better profits for you!

Then the **UPGRADER** Plan takes your profits right to the top! Whitney's "4-star" Excelsior mixture assures your customer of all the advantages he can get in Pan American . . . plus a fine, luxuriant texture and 100% permanent turf. It offers him a "show" lawn that

will retain its luxurious beauty through generations of family living.

This, then, is Whitney's best mixture. Since each pound contains even more seed than the Pan American, the cost of seeding is only slightly higher, even though the per-pound price is higher. Thus it's your customer's best buy . . . and at the same time you get best profits from Excelsior.

The **UPGRADER** Plan attracts customers and moves them from good to better to best results for themselves . . . and best profits for you!

You will be backed up by dominant national, local and cooperative ads; new packaging; full-color displays. Your lawn seed department will also have Whitney's "ABC's of Lawn Preparation and Maintenance" to answer consumer questions and to make it the leader in your neighborhood.

Send the coupon below or write immediately for complete details of this outstanding plan to **UPGRADE** to better profits. Don't miss this opportunity to get in at the start of what promises to be the most successful selling plan ever devised for lawn seed.

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Very best Christmas tree strain. Grown from seed collected by our own men from selected parent trees. Exceptionally healthy, sturdy, straight-stemmed specimens, with rich color.			<i>Taxus cuspidata capitata</i> —side cuttings		
2-yr., S., 4 to 8 ins.	\$ 7.00	\$ 35.00	1-yr., T., 4 to 6 ins.	\$25.00	\$175.00
4-yr., T., 8 to 14 ins.	25.00	125.00	<i>Taxus cuspidata</i>		
<b>● MUGHO PINE</b>			1-yr., T., 5 to 6 ins.	20.00	150.00
4-yr., S., 5 to 10 ins.	10.00	50.00	2-yr., T., 8 to 12 ins.	40.00	350.00
5-yr., T., 5 to 10 ins.	25.00	125.00	<i>Taxus hicksi</i>		
<b>● AUSTRIAN PINE</b>			1-yr., T., 6 to 8 ins.	25.00	175.00
3-yr., S., 8 to 14 ins.	9.00	45.00	2-yr., T., 8 to 12 ins.	40.00	350.00
<b>● BLACK HILLS SPRUCE</b>			<i>Taxus Moon's columnaris</i>		
3-yr., S., 4 to 8 ins.	8.00	40.00	1-yr., T., 4 to 6 ins.	25.00	175.00
4-yr., S., 8 to 12 ins.	10.00	50.00	<i>Taxus browni</i>		
4-yr., T., 5 to 10 ins.	25.00	125.00	1-yr., T., 4 to 6 ins.	25.00	175.00
<b>● NORWAY SPRUCE—Fast-growing.</b>			2-yr., T., 8 to 12 ins.	40.00	350.00
Special strain of our own collection.			<i>Taxus hatfield</i>		
2-yr., S., 5 to 10 ins.	7.00	35.00	1-yr., T., 4 to 6 ins.	25.00	175.00
3-yr., S., 8 to 14 ins.	10.00	50.00	<i>Taxus intermedia</i>		
5-yr., T., 10 to 16 ins.	30.00	150.00	1-yr., T., 4 to 6 ins.	25.00	175.00
Excellent understock.			2-yr., T., 6 to 8 ins.	40.00	350.00
<b>● WHITE SPRUCE</b>			<b>● JUNIPER HETZI GLAUCA</b>		
3-yr., S., 5 to 10 ins.	8.00	40.00	1-yr., T., 6 to 8 ins.	25.00	250.00
<b>● COLORADO BLUE SPRUCE</b>			<b>● GLOBE ARBORVITAE</b>		
3-yr., S., 6 to 10 ins.	11.00	55.00	<i>Woodwardi</i>		
5-yr., T., 6 to 12 ins.	25.00	125.00	1-yr., T., 5 to 7 ins.	30.00	250.00
<b>● DOUGLAS FIR</b>			<i>Howey's</i>		
3-yr., S., 6 to 10 ins.	10.00	50.00	1-yr., T., 5 to 7 ins.	30.00	250.00
<b>● AMERICAN ARBORVITAE</b>			<b>● PYRAMIDAL ARBORVITAE—Compacta</b>		
3-yr., S., 8 to 12 ins.	10.00	50.00	1-yr., T., 5 to 7 ins.	25.00	200.00
<b>● CANADIAN HEMLOCK</b>			<b>● JAPANESE HOLLY</b>		
3-yr., S., 8 to 14 ins.	20.00	100.00	<i>Ilex rotundifolia</i>		
<b>● RED BARBERRY</b>			1-yr., T., 4 to 6 ins.	20.00	175.00
3-yr., S., 8 to 12 ins.	12.00	60.00	2-yr., T., 8 to 12 ins.	30.00	250.00
4-yr., S., 18 to 24 ins.	16.00	80.00	<i>Ilex convexa</i>		
<b>● CONCOLOR FIR</b>			1-yr., T., 4 to 6 ins.	20.00	175.00
2-yr., S., 4 to 6 ins.	12.00	60.00	<b>● RHODODENDRON</b>		
			From hybrid seeds.		
			2-yr., T., 8 to 12 ins.	\$1.25 each	
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			3-yr., T., 16 to 24 ins.	25.00	125.00

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## Hortorium Aids Nurserymen

Whatever the nurseryman grows and sells is the business of L. H. Bailey Hortorium at Cornell University, Ithaca, N. Y. The 21-year-old institution is staffed by five taxonomists, a full-time artist and an experimentalist. One of its many services is to help the commercial grower with problems requiring information about plants.

The hortorium is the only scientific institution of its kind devoted to studies on the classification of cultivated plants. Its purpose, aside from its research and educational activities, is to serve as a clearing-house for horticultural information.

The hortorium collects, photographs and preserves cultivated plants from all over the world, studies many specimens under growing conditions, reports on taxonomic research through its several publications and maintains a collection of American and foreign seed and plant catalogs dating back to the 1880's. One of its major working tools is its 6,000-volume library of botanical and horticultural works.

### Multitude of Questions

But above all, the hortorium answers questions—questions about plant nomenclature, identity and sources that plague the busy nurseryman. The hortorium can locate the source of a rare shrub, correct the name of a mislabeled tree or identify a flowering plant that may have appeared mysteriously in a shipment of something else.

A recent inquiry to the hortorium is typical of the puzzles the institution's scientists are expected to unravel:

An Elmira, N. Y., seedsman wrote, "We are sending a specimen of a plant. Will you kindly identify it and advise what can be used to eliminate it? Our customer states that it persists in creeping through the lawn."

Ten days later he had the answer. The weed was a potentilla, or cinquefoil, hortorium taxonomists found. They mailed him a Cornell bulletin on home lawns that described treatments for getting rid of it.

Besides answering inquiries such



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## Transplant Now

All items noted below can be safely transplanted into beds now. All plants branched, 2 to 3-ft. transplants and carry a small ball of soil where possible.

### Ilex Bullata

One of the new varieties of Japanese Holly in great demand. It has small, shiny, convex leaves. Grows rapidly at first, then slows down. Shears well. It can be used in sun or shade and contrasts well with both broad-leaved and narrow-leaved evergreens. It makes the finest low evergreen hedge. Easy to grow and faster than yews. Sells on sight.

6 to 8 ins., 2-yr., T. .... **\$15.00**  
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**BOXWOOD, English,** 3 to 4 ins. **10.00**

**BOXWOOD, American,**

4 to 6 ins. .... **10.00**

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**BOXWOOD, Japanese,**

6 to 8 ins. .... **10c each**

**ILEX crenata,**

4 to 6 ins., 2-yr., T. .... **15.00**

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### Pieris Japonica

The most beautiful broad-leaved evergreen of all. In summer the color of the foliage is always changing, first red, then pale green and then dark green. In August the flower buds form in graceful racemes for next spring's flowers. White Lily-of-the-Valley like flowers appear with the first warm weather and flowers often last 6 weeks. Grows well in sun or shade. Makes a nice contrast with azaleas and rhododendrons.

4 to 6 ins., TT. .... **15c each**

6 to 8 ins., TT. .... **20c each**

### Leucothoe Catesbaei

A good broad-leaved evergreen that grows in dense shade. Lily-of-the-Valley like flowers, reddish-bronze foliage in winter. Contrasts well with azaleas and rhododendrons. Fine for flower arrangements.

6 to 8 ins., T. .... **20c each**

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as the foregoing, hortorium scientists answer many more from home gardeners and plant lovers, thus directing the customer to the desired sources. These nonprofessional questioners truly put the taxonomists to the test, since they usually provide only scanty specimens or dimly remembered descriptions of the plants they want identified.

In order to be prepared for the questions from the nurseryman and the nurseryman's customers, the hortorium is constantly adding to its herbarium of nearly 300,000 specimens. For many species, especially those with a wide geographical range, several specimens are preserved in order to have on record as many regional variations as possible with which to compare plants in question.

This herbarium, the library, the experimental gardens and greenhouse, together with a master index of the collection of nurserymen's catalogs, are the tools the hortorium taxonomists use to provide the special information the plantsman asks for.

### New Reference Works

Another phase of current hortorium work is the preparation of two basic works of reference for the horticulturist, "Hortus III" and a new Bailey's "Cyclopedia of Horticulture." "Hortus III," scheduled for completion in 1959, will supersede "Hortus Second," a concise dictionary of gardening and general horticulture which plantsmen now use. Work on the new cyclopedia, to supersede the 3-volume set edited by L. H. Bailey and published during 1914-17, will be started as soon as "Hortus III" is finished.

All these services, which make the hortorium a unique center of information for the nurseryman, are in greater demand each year. There is no charge for any of them. If the growing number of requests for information are to be serviced, the hortorium must increase its staff. To do so, a program to establish the Liberty Hyde Bailey memorial fund has been initiated by Cornell University. The goal of this fund, \$500,000, is to be reached by subscriptions to be contributed over a 5-year period. The income of the fund will be used, as it becomes available, to add more specialists to the hortorium staff and to expand its research and service program.

The memorial fund honors the hortorium's founder, Liberty Hyde Bailey, who devoted his life to the advancement of horticulture as an applied science based on the pure

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6 ins., 50c; 8 ins., 75c; 10 ins., \$1.00; 12 ins., \$1.25;  
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New Lisbon Rd. PEMBERTON, N. J.

science of botany. Dr. Bailey, former dean of the college of agriculture at Cornell and author of a multitude of reference works and handbooks for horticulturists, died in December, 1954.

## CHRISTY ANNIVERSARY

Arthur M. Christy, 76, vice-chairman of the board of the Gardening Council, recently celebrated his 60th anniversary in the nursery business. Mr. Christy was hired as an office boy in 1896, when he was 16 years old, by Charles W. Stuart, head and founder of C. W. Stuart & Co., Newark, N. Y., which this year celebrated its 104th anniversary. Within one year, Mr. Christy was placed in charge of sales for the firm in Ohio. A year later he was made sales manager of the concern, and in 1925 he was named president, a position he held for 30 years.

In addition to his business achievements, Mr. Christy has also been active in political and civic fields. In 1912 he was elected mayor of Newark, N. Y., on the Republican ticket. The following year he was re-elected as a Union candidate. He served as postmaster of Newark for 12 years and was a member of the Republican state executive committee for 10 years, until he retired in 1948.

In 1916 Mr. Christy was named president of the Newark chamber of commerce. He also served as chairman of the municipal board and is now president of the board of visitors of the Newark state school for mentally retarded children.

## PEAR WOOD SOURCES

The list of sources of propagating wood of apple varieties compiled by the American Pomological Society and published in the issue for fall, 1954, of its bulletin, "Fruit Varieties and Horticultural Digest," received such response that a similar list for pear species and varieties has been compiled and is published in the spring issue of the bulletin, just received. Over 800 varieties are listed. The sources are state universities and experiment stations in the United States and Canada.

REED'S NURSERY, P. O. Box 72, West Milton, Pa., was recently started by Donald M. Reed and his son.

DR. GEORGE S. AVERY, director of the Brooklyn Botanic Garden, New York city, has been elected president of the Botanical Society of America.



# BOOKS FOR NURSERYMEN

Make your library complete! Select the books you need now from this list available for your handy reference. Keep up to date with the knowledge of experts to help increase your business. If you don't find the books you want here, let us know. Undoubtedly, we'll be able to help you in securing the exact information you want. Look this list over carefully and send your order now!

## INSECTS AND DISEASES

Diseases and Pests of Ornamental Plants—Dodge and Rickett	\$ 6.00
Plant Disease Handbook—Westcott	10.00
Garden Enemies—Westcott	3.50
Insect Guide—Swain	3.95
The Gardener's ABC of Pests and Diseases—Dimock	2.95

## CONSTRUCTION

Patio Book—Sunset	2.00
How to Build Walls - Walks - Patio Floors—Sunset	1.50
What to Make with Concrete—Popular Mechanics	2.00
Building Plant Shelters and Garden Work Centers—Sunset	1.00
How to Build Outdoor Furniture—Sunset	1.00
How to Build Garden Structures—Aul	3.50

## HOUSE PLANTS

Modern Foliage Plants—Graf	.50
Geraniums—Clifford	2.00
Plants Indoors—Noble and Merkel	6.95
African Violets—Wilson	3.50

## LANDSCAPE AND DESIGN

Ground Cover Plants—Wyman	4.75
Shrubs and Trees for the Small Place—Van Melle	3.00
Complete Home Landscape and Garden Guide—Korobko	3.95
Small Home Landscape—McKenna	2.00
New Design of Small Properties—Bottomley	4.00
Landscape Plans for Small Homes—Bailey	2.00
Landscape Sketching—Black	5.75
Planting Design—Robinson	3.00
How to Plant Your Home Ground—Aul	3.50
Landscape Your Home—Sunset	1.00
Landscape with Shrubs and Flowering Trees—Lamson	3.50
65 Practical Garden Plans—Elliott	1.00
Landscape Master Units, Series 3—Surtees	3.00

## NURSERY OPERATION

The Principles of Nursery Management—Duruz	3.50
Nursery Cost Finding—Surtees	7.50

## PROPAGATION

Plant Propagation Practices—Wells	7.50
Propagation of Plants—Kains and McQuesten	5.00
How to Increase Plants—Hottes	3.50
Improved Practices in Propagation by Seed—Chadwick	.25
Plant Breeding for Everyone—Beatty	2.75
Propagation of Alpines—Hills	5.00
Propagation of Trees, Shrubs and Conifers—Sheat	5.00

## MAINTENANCE

Maintenance of Shade and Ornamental Trees and Shrubs—Pirone	8.00
New Tree Experts' Manual—Fenska	5.00
The Grafters' Handbook—Garner	4.50
The Pruning Manual—Christopher	5.00
Sunset Pruning Book—Hudson	1.50

## SOILS AND FERTILIZERS

Soil Sterilization—Lawrence	3.50
The Nature and Properties of Soils—Lyon, Buckman and Brady	6.00
Our Garden Soils—Kellogg	4.00
Care and Feeding of Garden Plants—14 experts	3.00
Handbook of Fertilizers—Gustafson	2.50
Soils and Fertilizers for Greenhouse and Garden—Laurie and Kiplinger	2.50

## TREES AND SHRUBS

Shrubs and Vines for American Gardens—Wyman	\$ 8.00
How to Grow Fuchsias—Howard	1.50
Crab Apples for America—Wyman	2.00
Lilacs for America—Lilac Survey Committee	1.00
The Book of Shrubs—Hottes	4.00
Climbers and Ground Covers—Hottes	3.00
The Friendly Evergreens—Kumlien	10.00
Evergreens—Kumlien	1.50
Cultivated Conifers—Bailey	13.50
Hollies—Hume	6.75
Roses for Every Garden—Allen	4.50
Azaleas: Kinds and Culture—Hume	5.00
Winter Hardy Azaleas and Rhododendrons—Bowers	3.00
Trees for American Gardens—Wyman	7.50
The Book of Trees—Hottes	4.00
Trees—Zim and Martin	1.95

## GREENHOUSE OPERATION

Florist Crop Production and Marketing—Post	10.00
Greenhouses: Their Construction and Equipment—Wright	3.50
Greenhouse Gardening for Everyone—Chabot	4.75
Orchids Are Easy to Grow—Logan and Casper	6.00
Greenhouse Heating and Construction—Gray	1.50
Seed and Potting Composts—Lawrence and Newell	1.75
Flowering Pot Plants—Potter	2.00
Greenhouse and Garden Chrysanthemums—Kiplinger	3.00

## FLOWERS IN COLOR

The Border in Color—Mansfield	6.00
Camellias Illustrated—Sharp	5.00
Roses Illustrated—Sharp	3.50
Camellias—Gerbing	15.00
Garden Bulbs in Color—McFarland, Hatton and Foley	3.95

## MISCELLANEOUS

A Growers' Guide to Bedding Plants—Potter	1.00
Turf Management—Musser	7.00
The Portable Garden—Sunset	1.00
Manual of Cultivated Trees and Shrubs—Rehder	12.50

## REFERENCE

Taylor's Encyclopedia of Gardening—Taylor	5.95
Horticultural Color Charts—Royal Horticultural Society	12.00
Hortus Second—Bailey	12.50
Standardized Plant Names—American Joint Committee on Horticultural Nomenclature	10.50
Pronouncing Dictionary of Plant Names	.25
Standard Cyclopaedia of Horticulture—Bailey	52.00

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## PRICES AND PROFITS

*Comments on Business Management in the Nursery*

*By John J. Pinney*

### PRICE CUTTING

Nurserymen too often confuse price cutting with salesmanship. Only on rare occasions is there any connection between them. Price cutting may sometimes be justified. Increased traffic in the nursery may result from advertising a reduced price for a popular plant whose value is generally known. Such price cutting should be limited to one or two items at a time and is justified only when it results in increased sales of not only the advertised plants, but other merchandise as well.

Sometimes a nurseryman grows or buys too many of a popular plant—more than the market would ordinarily absorb. Cutting the price might help to reduce the stock and minimize the loss, but this practice should be resorted to only after one feels certain that the market has taken all it will at the regular price.

It is the practice of some nurserymen to advertise certain well-known plants at reduced prices at all times. This is done not to increase the sale of those items, but rather to create the illusion that all of the advertiser's prices are low.

### Arguments Against Price Cutting

The arguments against price cutting are more valid than those in favor of it. Consider, for example, the contention that cutting the price will increase the volume of sales. It must be admitted that if an item is in demand a reduced price might increase the sales, but that is not to say it will result in greater profit. This can be demonstrated by means of an illustration taken from the experience of a southwestern nurseryman.

The nurseryman in question was doing a good job of selling rosebushes in containers at \$1.75 each to his regular customers, without advertising. A newspaper advertising salesman talked him into running a sale at \$1.25 per plant on the grounds that it would result in greatly increased sales. Accordingly, he stocked up with more bushes, ran the ads and awaited the rush. Much to his surprise and disappointment, the increased volume did not materialize. He came to the conclusion that having educated his customers to paying

\$1.75 for a good rosebush, they were suspicious of cut-price merchandise, and he feared that he might have lost some of the confidence of his customers, as well.

The roses cost him 75 cents each. Assuming that he had sold 100 bushes at \$1.75 each, his gross profit would have been \$100. At a selling price of \$1.25, his gross profit per bush would have been only 50 cents each. Therefore, in order to gross a profit of \$100 at a selling price of \$1.25 he would have had to sell 200 bushes—in other words, double his sales. Furthermore, it is obvious that the cost of selling and handling 200

bushes would have been a great deal more than for 100. On top of that, he had the additional expense of the newspaper advertising. The net result was that he was much worse off than if he had not cut the price.

### Doubtful Gains

Here is another example: Suppose you buy 100 plants for \$40 and sell them for \$100, for a gross profit of \$60. What happens if you reduce the selling price only 20 per cent? Your gross profit is \$40; so you will have to increase your sales 50 per cent in order to earn the same gross profit. Remember also that it costs you much more to make 50 per cent more sales and handle 50 per cent more plants, which means that your net profit on 50 per cent more business will be less. Who wants to work that hard!

It is always a great temptation to cut prices to sell surplus merchandise. As stated, this practice is justified when the merchandise in ques-

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No Packing Charge  
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**POTTED . . . . .** In Cloverset, Pots  
Ready March, 1957

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Write today for prices.

**NATIVE AMERICAN HOLLY FARMS**

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## OWN-ROOT TRANSPLANTS

50c to \$1.00 each, per 100.

Minimum quantity: 25 of each variety.

Grow better salable-size hybrid rhododendrons quicker and at less cost with our well-rooted cutting transplants. 70 of the better varieties, including many of the newer Dutch and English hybrids, will be ready early May, 1957.

Send us your want list. Place orders by November 1, 1956, to assure best selection of varieties.

## ANGELICA NURSERIES

Growers of fine plants.

R. D. No. 1

MOHNTON, PA.



Dr. Dresselhuys rooted cutting out of greenhouse. Cuttings transplanted to 4-in. deep flats and are cut out with a solid peat ball.

tion is popular and in demand. But suppose the plants you plan to move by cutting the price are varieties that for one reason or another are not in demand. Perhaps they are not well known, or they may be well known but out of favor. Whatever the reasons for their slow sale, cutting the price will not remedy the situation. To use the slang of the day, they are dogs that no one wants.

Money spent in advertising and time used for taking care of unwanted merchandise will be wasted. Space used for displaying it might better be used for stock that you know will sell. Your best bet is to dump it.

It is the practice of some nurserymen to run cut-price sales at the end of the season, to close out whatever nursery stock they are unable or do not want to carry over until the next season. Usually the prices are cut drastically. Such sales are of doubtful value. Many customers, when they become aware of these low-price sales, will defer their buying until the time of the sales, thus reducing the volume of business at profitable prices.

CHANGE of firm name for Wabash Valley Landscape Nursery to Toll Gate Nursery, at Bluffton, Ind., has been announced by Clinton E. Sowards. A new garden store is being built and the nursery is being moved to a new location in an area known as Toll Gate Heights. The management will continue as formerly.

## PYRAMIDAL ARBORVITAE

We have a fine block of 1000 nice Pyramidal American Arborvitae, mostly 3 to 4 ft.

	Each
2 to 3 ft., B&B.....	\$3.00
3 to 4 ft., B&B.....	4.25
4 to 5 ft., B&B.....	5.50

15% discount for a truckload of 100 or more.

Also several hundred Pfitzer Juniper, 4 to 5 ft., B&B, \$7.50. Just right for big landscape jobs.

Write for our Trade List of broad-leaved evergreens, shade trees, etc.

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SHRUBS, VINES  
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Selected heavy fruiter.....	.95
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Males .....	.95
Pairs, male and female together .....	1.60

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Cornuta, males .....	.95
Cornuta, females .....	.95
Cornuta burfordi .....	.95
Pedunculosa, seedling .....	1.60

#### ENGLISH HOLLIES

Ciliata major .....	1.25
Belgica .....	1.25
Alicornis .....	1.25
Fisher .....	1.25
Marnocki .....	1.25
W. J. Bean .....	1.25
Males .....	1.25
Medio-picta .....	1.60
Wilson .....	1.75
Pairs, male and female potted together .....	2.00
From 3-in. pots to 5 to 8 ins.	
Ciliata major .....	.65
Alicornis .....	.45
Marnocki .....	.55
W. J. Bean .....	.55
Fisher .....	.55
Males .....	.45

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### FINISHED MATERIAL

*Taxus Vermeulen*, in sizes 15 to 24 ins.  
*Taxus hicksii*, in sizes 15 to 24 ins.  
*Taxus brownii*, in sizes 18 to 24 ins.  
*Ilex bullata convexa*, in sizes 12 ins. to 3 ft.  
*Ilex crenata*, 15 ins. to 3 ft.  
*Chamaecyparis (Retinospora)* in varieties:  
*Pisifera*, *pisifera aurea*, *plumosa*, *plumosa aurea*, *filifera*, *obtusum* and *lutescens*. Sizes up to 4 ft.  
*Thuja occidentalis elegantissima*, in sizes 18 to 30 ins.  
*Azalea hinodegiri* and *Herbert*, in sizes to 18 ins.

#### BED-GROWN LINERS

<i>Azalea hinodegiri</i> , 2-yr. ....	\$6.25
<i>Azalea hinodegiri</i> , 1-yr. ....	.15
<i>Ilex aquifolium femina</i> , 2-yr. ....	.50
<i>Ilex aquifolium femina</i> , 1-yr. ....	.40
<i>Ilex crenata</i> , 2-yr. ....	.25
<i>Ilex crenata helleri</i> , 1-yr. ....	.15
<i>Ilex crenata bullata convexa</i> , 3-yr. ....	.25
<i>Ilex crenata bullata convexa</i> , 2-yr. ....	.20
<i>Ilex crenata bullata convexa</i> , 1-yr. ....	.15
<i>Ilex crenata rotundifolia</i> , 1-yr. ....	.15
<i>Ilex cornuta burfordi</i> , 2-yr. ....	.40
<i>Ilex cornuta burfordi</i> , 1-yr. ....	.30
<i>Ilex opaca femina</i> , 2-yr. ....	.40
<i>Ilex opaca femina</i> , 1-yr. ....	.30
<i>Taxus</i> in varieties: <i>Cuspidata</i> , <i>brownii</i> , <i>hatfieldi</i> , <i>hicksii</i> and <i>Vermeulen</i> , 3-yr. ....	
.....	.30
.....	.22½
<i>Taxus cuspidata nana</i> , 3-yr. ....	.35
<i>Taxus cuspidata nana</i> , 2-yr. ....	.25

The above is only a partial list of our offerings. Write for our complete price list.

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Vuykiana Azaleas, Hardy Forcing Hybrids  
 Ghent & Mollis Azaleas, Hybrid Rhododendrons  
 Clematis, Peonies, Astilbe, Dicentra  
 Red Maple, Copper Beech, Fancy Shrubs.  
 140 Cedar Street, New York 6, N. Y.

## Annual "Plant Connecticut" Program

By Owen S. Trask

"Plant Connecticut" week, October 14 to 21, will be given a send-off this year with a cooperative trade planting project October 13. The Vernon Methodist church at Vernon will be given a free replanting job, with Bruce Vanderbrook, Vanderbrook Nurseries, Manchester, as chairman of the project, assisted by Earl Herrick and Will Vittner, also of Manchester.

This is the fifth consecutive year that a public building in Connecticut will have received a "face lifting" through the cooperative efforts of the Connecticut Nurserymen's Association and the agricultural extension service. Starting in 1951, these two agencies have worked together, along with rural people, in a program demonstrating how communities and homes may be improved by landscaping.

Five applications for consideration were received by the association's executive board this year. A representative of each of the four groups not selected has been invited to be on hand during the planting project, to receive a B&B shrub as a consolation gift.

The Connecticut efforts are an outgrowth of the "Plant America" program sponsored by the American Association of Nurserymen. Believing that the program could have valuable effects in Connecticut, the state nurserymen's group asked the extension service to assist in planning and organizing a project whereby, over a period of eight years, public buildings in a rural town in each county would be landscaped.

#### First Demonstration

The nurserymen suggested that a town in Hartford county be selected for the first demonstration. Granby was named after representatives of the various local organizations were contacted and agreed to assist in the program. A meeting was called, at which time townspeople were invited to come together to learn details of the program and suggest buildings to be landscaped. Realizing this chance of a lifetime, the townspeople named 20 public buildings, in-

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2-yr. Seedlings

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These are of very dark color, bushy material in the larger sizes. The two larger grades are good for mail orders.

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**Evergreens,  
Ornamental Trees  
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Splendid stock.  
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### BOULEVARD NURSERIES

Newport, R. I.

- Quality Nursery Stock
- Lining-Out Stock
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cluding a new school, churches, parsonages, firehouses, libraries, Grange Hall, American Legion Hall and Town Hall, located in all areas of the town. It turned out to be a much larger project than had been anticipated, but the nurserymen's association decided to go ahead with the entire job. Prof. H. O. Perkins, landscape design department, University of Connecticut, Storrs, accepted the assignment of drawing designs for landscaping the various buildings. Five county nurseries were named by the state association to cooperate, and each agreed to furnish materials at cost, which was covered by the state association, and a foreman to take charge of planting.

#### Plant Granby Day

A proclamation by Governor Lodge designated the week of October 14 to 20 as "Plant Connecticut" week. October 13 was set as "Plant Granby" day, and 60 townspeople turned out to assist with the planting. Publicity reached all parts of the United States through agricultural publications and Associated Press news releases. People from towns in Massachusetts and New York were present to observe the proceedings, and several letters were received asking about organization of the program.

The nurserymen were well satisfied with the results of the first year's program. However, it was decided to restrict planting to one public building in each town selected in subsequent years.

In 1952, Fairfield county was selected by lot to be the recipient in the second cooperative landscaping demonstration. It was decided that the rural town be selected by means of a letter-writing contest in which local people could participate. The subject of the letter was "Why I believe (public building) should be landscaped." A committee was appointed to select the winning letter naming the town and building to receive the landscaping job.

The firehouse of the Stony Hill volunteer fire company at Bethel was chosen, and Professor Perkins again prepared the design. Three county nurseries were asked by the state association to donate trees and shrubs for the job with the association paying cost of labor and transportation. The week of October 12 to 18 was designated as "Plant Connecticut" week, with October 11 the date set for planting the firehouse. The firemen did considerable work previous to the planting day, grading, digging holes and hauling in good soil to put around the plants.

Middlesex county was named in



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"GOOD LUCK" PLANT

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IN WIDE ASSORTMENT

Hardy Azaleas, Pink Dogwood, Jap. Red Maples, Old English Boxwood, Lilacs (French Hyb.), Evergreens, etc., in 1, 2 and 3-yr. transplants, at competitive prices. Write for list.

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DEERFIELD STREET P. O., N. J.

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Leading varieties. All sizes, 2 to 8 ft.

Write for list. Inspection invited.

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INDIANA, INDIANA CO., PA.

Grower of Quality Nursery Stock

Current Trade List on Request

## AZALEAS

Reliably hardy American and Asiatic varieties.

3-yr., XX, for growing on.

Mollis  
Vaseyi  
Calendulacea  
Arborescens

Finished budded stock, B&B.

Schlippenbachii  
10 to 12 to 15 ins.  
Vaseyi  
10 to 12 ins.  
Mollis  
12 to 15 to 18 ins.

TAXUS LINERS, better varieties.

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## EVERGREENS

300 acres of choice Evergreens ready for immediate resale

Write for list.

**GARDNER'S NURSERIES, Inc.**  
ROCKY HILL, CONN.



## LAST CALL

	Per 100	Per 1000
BOSTON IVY		
2-yr., T., No. 1.....	\$30.00	\$250.00
2-yr., T., No. 2.....	17.50	150.00
2-yr., T., No. 3 (shorts).....	10.00	75.00
CORNUS FLORIDA (White Dogwood)		
Below grafting size.....	5.00	30.00
Grafting and budding size.....	7.50	40.00
Above grafting size.....	12.50	100.00
2-yr., T., 18 to 24 ins.....	25.00	200.00
2-yr., T., 18 to 36 ins.....	50.00	400.00
CYDONIA JAPONICA, seedlings		
1-yr., 10 to 15 ins.....	5.00	40.00
1-yr., 15 to 21 ins.....	7.50	40.00
CALIFORNIA PRIVET		
1-yr., cuttings, 10 to 24 ins.....	6.00	50.00
CORNUS FLORIDA RUBRA		
1-yr., grafts, field-grown.....	75.00	700.00
Free packing for cash with order.		
<b>BROWER'S NURSERIES</b>		
BOX 25 NEW LONDON, CONN.		

1953 and the public school at Durham selected for landscaping in the letter-writing contest. The board of education and garden club had previously done some work and had a landscape design of the building prepared which was used by the nurserymen. Both organizations took the initiative in getting much of the preparation of the planting area around the school building done in advance by local people. On October 4, townspeople prepared the planting area and hauled in soil. On October 10, three county nurseries brought in 130 pieces of plant material representing 22 different trees and shrubs. Local citizens, including firemen, members of the American Legion, 4-H Clubs, board of education and garden club, assisted in the planting. The volunteer fire department furnished one of its trucks to assist in watering the newly set plants. October 11 to 17 was proclaimed "Plant Connecticut" week. Two weeks later, an outdoor assembly program was held at the school with all the school children participating, at which time formal dedication of the planting was made.

The fourth year, New Haven county was named in the program. Rural people in the county rallied behind their agricultural extension service and named the new county agricultural center as the recipient for the landscaping award. Professor Perkins prepared the design, and four county nurserymen donated trees, shrubs and ground cover plants. Approximately one half of the lawn also had to be regraded and seeded. Planting was done on October 9 preceding the fourth annual "Plant Connecticut" week which Governor Lodge named by official proclamation.

### Planting of the Green

The county selected in 1955 was Litchfield county in the northwestern part of the state. People from six rural towns expressed their reasons why a public building or area in their community should be landscaped. The town of Plymouth and its green were finally selected to receive the planting award. Letters written by the town's minister, secretary of the Community Club and the lecturer of the Grange were judged the best of all received.

Up until two years ago, stately elms grew around the green, but the dreaded Dutch elm disease attacked them. All the trees had to be cut down and the stumps removed, and the green was left with but two hemlocks and one maple tree. All the work was done by townspeople.

"A friendly, efficient sales service"

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WALLINGFORD, CONN.

Representing

Adams Nursery, Inc.  
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## ORNAMENTAL EVERGREENS

### Trees and Shrubs

## BAGATELLE NURSERY

P. O. Huntington Station, N. Y.

## HEMLOCK

Rhododendron—Kalmia

Azalea

## CURTIS NURSERIES

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## LINING-OUT STOCK

Our fall price list of quality liners will be ready about October 15. If interested, please write for same.

THE MUGGLAS CORPORATION

Formerly  
Thomas B. Neenan Co., Inc.  
DRESHER, PA.

## SHEPARD NURSERIES

Growers and Distributors of

## ORNAMENTAL NURSERY STOCK

Truckloads only, no boxing.

60 acres growing. Skaneateles, N. Y.

## SPIRAEA JAPONICA COCCINEA

(Improved Anthony Waterer)

Per 100 Per 1000  
12 to 15 ins. .... \$30.00 \$250.00  
15 to 18 ins. .... 40.00 350.00

**KINGWOOD NURSERIES**  
MENTOR, O.

LILACS FOR AMERICA, by Lilac Survey Committee. 30 species, 800 varieties. 48 p. \$1.00 postpaid.  
American Nurseryman Chicago 4, Ill.



A survey of the green was made in summer and plans were prepared, and local committees appointed to help with preparation and planting work. After planting day, October 8, maples, dogwood and honeysuckle trees changed the appearance of the center of this old New England town.

Governor Abraham Ribicoff issued a proclamation designating the period of October 8 to 15 as "Plant Connecticut" week. In this period each year, homeowners were urged to clean up around their homes and make plantings wherever practical to improve the looks of their grounds. Nurserymen in the state offered plants and shrubs at reduced prices as an incentive to people to buy plants and shrubs suitable for their home surroundings.

#### Current Program

"Before" and "After" pictures taken of each planting project have been exhibited at annual meetings of the nurserymen's association to show what was done. Each year, women's groups in the community cooperated by providing a lunch for all the workers.

Tolland county was named for the 1956 program. Again, a letter-writing contest is being held for the purpose of selecting a town and a public building. The building named in the winning letter will receive its "face lifting" October 13, just prior to this year's "Plant Connecticut" week.

The program has been an outstanding example of how cooperation between the agricultural extension service, Connecticut Nurserymen's Association and local people can work together in promoting better community beautification. The projects thus become lasting mementos of this cooperation and at the same time provide excellent examples for local organizations and individuals to follow in their own communities and around their homes.

W. G. BRECHT, 821 Bauer street, Elmont, N. Y., has started growing trees for landscaping purposes on an 180-acre property.

EVERITT L. MILLER recently joined the staff of Longwood Gardens, Kennett Square, Pa., as chief horticulturist. Until recently he had been superintendent of Planting Fields, the estate of the late W. R. Coe, in upper Brookville, Long Island. A graduate of the New York State Agricultural Institute at Farmingdale, L. I., N. Y., Mr. Miller was at one time landscape consultant for Hart's Nurseries, Wading River, Long Island.

## UNUSUAL LANDSCAPE ITEMS

<i>Abies balsamea</i>	12 to 14 ft.
<i>Albizia julibrissia rosea</i>	2 to 5-in. caliper
<i>Azalea calendulacea</i>	6 to 8 ft.
<i>Azalea poukhanensis</i>	5 to 6-ft. spread
<i>Cercis canadensis</i>	6 to 14 ft.
<i>Cornus florida</i>	6 to 18 ft.
<i>Cotoneaster divaricata</i>	4 to 6 ft.
<i>Chamaecyparis filifera aurea</i>	5 to 7 ft.
<i>Chamaecyparis obtusa crippsii</i>	7 to 9 ft.
<i>Chamaecyparis obtusa nana</i>	3 to 5 ft.
<i>Fagus sylvatica</i>	2 to 5-in. caliper
<i>Franklinia altamaha</i>	8 to 10 ft.
<i>Halesia tetraptera</i>	12 to 14 ft.
<i>Ilex crenata</i>	2 to 3 ft.
<i>Ilex opaca</i>	3 to 9 ft.
Magnolias, in variety	6 to 10 ft.
<i>Picea glauca conica</i>	5 to 7 ft.
<i>Picea glauca densata</i>	12 to 16 ft.
<i>Picea engelmanni</i>	8 to 12 ft.
<i>Picea omorika</i>	9 to 11 ft.
<i>Picea pungens</i>	12 to 16 ft.
Pin Oak	1½ to 7-in. caliper
<i>Pinus flexilis</i>	5 to 7 ft.
<i>Pinus strobus fastigiata</i>	12 to 18 ft.
<i>Pinus strobus nana</i>	3 to 5-ft. spread
<i>Pinus strobus pendula</i>	12 to 14 ft.
<i>Pinus thunbergi</i>	8 to 14 ft.
<i>Prunus newportii</i>	5 to 9 ft.
Red Oak	2 to 5-in. caliper
<i>Rhododendron</i> hybrids	6 to 8 ft.
<i>Rhododendron maximum</i> , clumps, approximately 15 canes	5 to 8 ft.
<i>Stewartia pentagyna</i>	8 to 10 ft.
Sweet Gum	2½ to 8-in. caliper
<i>Taxus brownii</i>	5 to 6 ft.
<i>Taxus capitata</i>	5 to 8 ft.
<i>Taxus hicksii</i>	5 to 8 ft.
<i>Taxus repandens</i>	3 to 5-ft. spread
<i>Tsuga canadensis</i>	5 to 11 ft.
<i>Tsuga caroliniana</i>	5 to 9 ft.
<i>Tsuga fremdi</i>	6 to 8 ft.
<i>Tsuga sargentii</i>	3 to 4-ft. spread
<i>Viburnum carlesii</i>	2 to 6 ft.

65 acres of choice landscape material. Established 38 years. Send us your want list for quotation.

## BLOOMER'S NURSERY & GARDEN CENTER

FLEMINGTON, N. J.

Phone: Flem. 155

Rt. 69—5 miles north of Flemington

## SEEDS

for the Nurseryman and Forester.  
Write for catalog.

**F. W. SCHUMACHER, HORTICULTURIST**  
SANDWICH, MASS.

### HANKOW CORKSCREW TREE

(*Salix matsudana tortuosa*)

Unusual landscape addition to tree lawn or shrub border. Branches both large and small grow upward with an exotic corkscrew twist.

A charming hardy Oriental tree that will delight you and your horticulturally interested customers.

	Per Each	Per Dozen
4 to 5 ft.	\$2.50	\$25.00
6 to 8 ft.	3.50	35.00

**BEARDSLEE NURSERY**  
PERRY, OHIO

### DWARF HEDGING

Per 100 Per 1000

Blue-leaved Arctic Willow ( <i>Salix purpurea nana</i> )		
7 to 12 ins.	\$12.00	\$100.00
12 to 15 ins.	15.00	125.00
<i>Teucrium chamaedrys</i>		
Top grade, field	18.00	150.00
Medium grade, field	12.00	100.00
<i>Viburnum opulus nanum</i>		
2-yr., field	40.00	375.00

Write for complete trade list.

**KINGWOOD NURSERIES**  
MENTOR, O.



# THIS BUSINESS OF OURS

*Reflections on the Problems of Nurserymen*

*By E. Sam Hemming*

## FRUIT TREE INDUSTRY

We nurserymen who are so familiar with the many changes that have taken place in the ornamental nursery industry in the past decade or so do not realize it, but parallel changes have taken place in the fruit tree industry and its offshoot, the orchard business.

I spent part of my vacation at Harrison Hall, Ocean City, N. J., the fine hotel owned by Mr. and Mrs. Hale Harrison, and fell to talking with Mr. Harrison of the many changes that have taken place in his type of nursery. Also, perhaps without being completely conscious of it, I do realize how different the orchard business is on the Delaware-Maryland peninsula. This region used to be an important fruit-growing section.

### Increase of Costs

The many complications attendant on fruit growing, the high cost of land, labor and equipment, spraying and shipping difficulties are forcing the migration of the really large orchards to the south and far west. Perhaps the most inequitable change has been the unfair increase in the cost of shipping and packing. The container and freight on a bushel of fruit may cost anywhere from \$1 to \$1.35. But today's market for peaches, for instance, in Baltimore is \$3.50 a bushel for the largest grade U. S. 1, while the smaller sizes, still U. S. 1, are as low as \$2. It is hard to say why this poor price must exist in boom times. Fruit prices do not keep pace with the cost of other products.

One of the effects of the high costs of fruit production and marketing, according to Mr. Harrison, is the steady increase in the number of small orchards, 20 to 30 acres in size, grown in connection with roadside stands. The benefits to be derived are many. The grower usually has a number of varieties to give him a longer season. He does not have to stand the cost of shipping. Even secondhand containers or the cheaper paper bag can be used. There is no middleman, either. The grower can, of course, grade his fruit to the best advantage, selling the U. S. 1 grades at the best price and taking

a discount on the smaller grades and the less perfect fruit, instead of incurring the almost total loss that occurs in the case of the orchardist.

### Strawberry Growing

On the Delaware-Maryland peninsula an even bigger change has taken place in the case of the strawberry industry. Before World War II, this area was one of the leading strawberry-growing sections in the country, with numerous five to 25-acre strawberry plantings. The profits were never great, and at best the living made was not too luxurious, and at the first excuse the extent of strawberry growing was greatly re-

duced. In this case, the chief cause was the tremendous growth of the chicken-broiler industry. The profits were much greater and the labor was a great deal less.

Only a few years ago it was not at all unusual for a family to go on a sort of huckleberry picnic to gather the berries to can and preserve. With labor rates so high and with the present prosperity, this is unheard of today. The fancy hybrid blueberry, while an important fruit-bearing plant item, certainly has not yet been planted so extensively as to take the place of the ordinary berry. Here again, the labor of picking is the big problem.

### Less Fresh Fruit

As a householder, it is my feeling that there is less fresh fruit on the market than there used to be, and I believe there is less demand. The amount that is canned, preserved and frozen, is, of course, extremely large, and in this direction the increasing population is being sup-

## HEAVY, 1-YR. FIELD PERENNIALS

Complete list on request.

	Per Dozen	Per 100
Artemisia Silver Mound	\$3.25	\$22.50
Delphinium, B. & L. Hybrids	3.60	25.00
Dianthus, Highland Hybrids	2.75	18.00
Hibiscus (Giant Mallows)	3.30	22.50
Iberis Snowflake	3.60	25.00
Lysichiton Morden's Gleam	3.30	22.50
Phlox subulata garryi, (Improved Vivid)	3.60	25.00
Phlox nivalis Camia	3.60	25.00
Plumbago larpentiae	2.75	18.00
Polygonum reynoutiae	3.30	22.50
Stokesia Blue Moon	3.00	20.00
Stokesia Blue Danube	3.00	20.00
Vinca minor (heavy)	2.40	15.00
Veronica Crater's Lake Blue	3.00	20.00
Veronica icicle	3.30	22.50
Veronica rupestris	3.30	22.50
Heavenly Blue	3.00	20.00

## BENTLEY'S HARDY PLANTS

2559 Mentor Ave.

MENTOR, O.

## Are You Interested in Buying Ohio-Grown Christmas Trees?

Write:

Ohio Christmas Tree Growers Council

## OHIO FORESTRY ASSOCIATION

Southern Hotel

COLUMBUS 15, OHIO

List of available trees together with names and addresses of members, \$5.00.

## HARDWOOD CUTTINGS

Unrooted

See our classified ad on page 74

BOB NEPRASH NURSERIES  
RT. 2, CEDAR RAPIDS, IA.

## LINING-OUT STOCK

Pot-Grown  
Immediate and Fall Shipment

	Per 100
Euonymus vegetus, 2 1/4-in. pot.	\$18.50
Euonymus radicans, variegated, 2 1/4-in. pot.	18.50
3-in. pot.	35.00
Juniperus pfitzeriana compacta, 2 1/2-in. pot.	25.00
Taxus hicksii, 2 1/2-in. pot.	27.50
Thuja elegantissima, 2 1/2-in. pot.	20.00
Thuja pyramidalis, 2 1/2-in. pot.	20.00
Thuja wareana, 2 1/2-in. pot.	20.00
Thuja woodwardii, 2 1/2-in. pot.	20.00
Philadelphus aureus, 2 1/4-in. pot.	17.50

THE *Hollandia* Gardens  
SOUTH VIENNA, O.

## ROSES

Quality and Service

MENTOR  
ROSE GROWERS, INC.  
MENTOR, O.

Get our price list before you buy

## GRAPE CUTTINGS

	Per 1000
Concord	\$5.00
Niagara	5.50
Delaware	5.50
Wire bound 100 to bunch. Order now. No orders after December 1. Scion wood state inspected.	
PAW PAW PLANT CO. PAW PAW, MICH.	



By digging three-year-old blocks of peonies every year you are assured of young, vigorous roots.

## FINE PEONIES

For Cut Flower Growers,  
Nurserymen, Garden Centers, etc.

Also individually wrapped "SUPERBLOOM" brand for counter sales. SEND US YOUR WANT LIST or write for complete list on herbaceous and tree peonies.

# THE COTTAGE GARDENS

Growers of Hardy Ornamentals, Finished and Lining-Out Stock. Peonies and taxus a specialty.

Nick I. W. Kriek  
Harold E. Hicks

LANSING 17, MICHIGAN

plied. These methods of handling fruit favor large-scale orchard production.

Another little incident that is indicative of the change in fruit-growing habits happened this summer. My son, Mike, went back along the edge of the woods and picked a quart of wild blackberries and then to my amazement went to a nearby grocery store and sold them for 45 cents. Another berry that is quite scarce on our local markets is the raspberry. There never seemed to be enough raspberries locally, and now there are fewer than there used to be. This section of Maryland is a little far south for really good raspberry production; so I do not know how well it has stood up in cooler areas.

The sale of fruit trees to the homeowner in general still maintains its pace, but with a difference. The farmer for the most part has given up fruit production as a source of cash income, except for the previously mentioned owner of a roadside stand. In place of the farm market, there has been the building up of a homeowners' market as a result of the great exodus of the citizen from urban to suburban or even rural areas, with his home in the country on a larger piece of land. A good many of these suburban homeown-

### MAIL-ORDER MEN:

#### List

### BEAUTY BUSH (Kolkwitzia)!

We have transplants light enough for mailing.

	Per 100	Per 1000
12 to 18 ins. ....	\$22.50	\$200.00
18 to 24 ins. ....	30.00	250.00
2 to 3 ft. ....	35.00	300.00

**NEWPORT NURSERY CO. NEWPORT, MICH.**

### EUONYMUS

#### Compactus

15 to 18 ins., B&B .....	\$0.85
18 to 24 ins., B&B .....	1.15
24 to 30 ins., B&B .....	1.50
30 to 36 ins., B&B .....	2.00

#### White Pine and Norway Spruce

2 to 3 ft., B&B .....	2.50
3 to 4 ft., B&B .....	3.50
4 to 5 ft., B&B .....	4.50

**Wade & Gatton Nurseries**  
BELLVILLE, OHIO

### SMALL FRUIT PLANTS and VEGETABLE ROOTS

We grow for the whole-sale trade only.

**KRIEGER'S WHOLESALE NURSERY**  
BRIDGMAN, MICH.

### WELLER'S BETTER PERENNIALS

with that  
Wonderful Root System

**WELLER NURSERIES CO.**

Ask for Catalog Holland, Mich.



### TAXUS

is our specialty.  
Bed stock—Liners  
Finished—Specimen.

Send for List

**EAGLE CREEK NURSERY CO., NEW AUGUSTA, IND.**

# HAVE YOU EVER SEEN A HEN'S TOOTH?

They're mighty scarce and so are good named varieties of holly liners.



## SEX GUARANTEED

## TESTED NAMED VARIETIES

Send for our new list of holly and azalea liners, roses and finished stock of rhododendrons and azaleas.

We are originators and introducers of many new varieties of holly, roses and azaleas.

Buy your stock from:

**THE BOSLEY NURSERY**  
MENTOR, OHIO

*Pioneers in Holly Selection*

ers have their own fruit trees, particularly the dwarf types, and berry-bearing plants.

The fruit tree grower still has his market, but like all of us has had to reorient his business to meet the changes.

## MISSOURI NURSEYMEN

### HOLD SUMMER MEETINGS

Holding its annual meeting September 10 at the Forrest Keeling Nursery, Elsberry, Mo., the Landscape and Nursery Men's Association of Greater St. Louis, elected the following as officers for 1957: President, Robert W. Jentsch, landscape architect for the City of St. Louis planning commission; first vice-president, Ben D. Houlihan, Houlihan Nursery Co., Creve Coeur; second vice-president, William H. Raupp; treasurer, William F. Ott, William F. Ott Landscape Service; secretary, E. F. Larson, Larson Landscape Co.; board of governors, Hugh Steavenson, Forrest Keeling Nursery, and Eugene K. Mueller, Bender Nursery, Affton.

About 200 persons attended the annual meeting, and many of them toured the nursery and new buildings, conducted by Mr. Steavenson and his associates. A fish dinner was served prior to holding the meeting. Ralph F. Miller reported at the meeting on the successful completion of the association's display garden at the mid-America jubilee in September. The committee was given a rising vote of thanks for its efforts. Applications for membership by the M & M Nursery & Landscape Service, Creve Coeur, and Thomas Nichols, an associate in the firm of Carl F. Giebel, St. Louis, were accepted unanimously.

The July meeting of the group was held July 9 on the grounds of Habertier Tree Service, Inc., Creve Coeur, with Mr. and Mrs. F. J. Habertier as hosts. An attendance of about 150 persons enjoyed a pleasant evening and partook of refreshments.

Monday, August 14, the association held the second outdoor meeting at the home of Mr. and Mrs. Joseph P. Houlihan, Jr., of the Houlihan Nursery Co. This meeting drew an attendance exceeding 150 members and their families. Nominations for officers for 1957 were presented. Final arrangements were made for the installation of a display garden for the association at the mid-America jubilee scheduled for September on the St. Louis waterfront. Carl F. Giebel was named general chairman for the project, with Ralph F. Miller,

## HEAVY SHRUBS SPECIALS

Per 100

Barberry, thunbergii  
atropurpurea, red

12 to 15 ins.	\$27.50
15 to 18 ins.	32.50
18 to 24 ins.	40.00
24 to 30 ins.	55.00

Honeysuckle, zabeli

2 to 3 ft.	27.50
3 to 4 ft.	35.00
4 to 5 ft.	42.50

Amur River North Privet

18 to 24 ins.	10.00
2 to 3 ft.	15.00
3 to 4 ft.	20.00

Write for catalog.

## BORK NURSERY

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## GOOD

## NURSERY STOCK

AS WELL AS

## ROSES

**GERARD K. KLYN, Inc.**  
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## GOLDEN VICARY PRIVET

Lovely, solid, golden-leaved variety. Extremely adaptable for a striking border. Retains full golden color from spring to fall. Beautiful for rose bed borders. Should have full sun.

Outdoor frame rooted cuttings ... \$10.00 \$20.00  
Per 100 Per 1000

**BEARDSLEE NURSERY Perry, O.**

## FORSYTHIA

Per 10 Per 100  
Lynwood Gold, 2 to 3 ft. \$5.50 \$50.00  
Spring Glory, 2 to 3 ft. 3.50 30.00

Write for quantity quotations.

**KINGWOOD NURSERIES**

MENTOR, O.

## Scarff's Nursery

FRUIT  
ORNAMENTALS  
LINING-OUT STOCK

Send for Complete Trade List.  
NEW CARLISLE, O.



Robert W. Jentsch, William F. Ott, H. A. Dieckgraefe, Kenneth B. Kirk and Ralph B. Shugert as assistants. After the meeting all enjoyed a lunch served by the hosts.

E. F. Larson, Sec'y.

## NEW YORK NURSERYMEN

[Concluded from page 10]

ties of lilacs, also azaleas, rhododendrons and thousands of other shrubs. The Highland park herbarium houses rare and beautiful plant varieties from all parts of the world. Some of the specimens viewed were plants brought to the United States by Ellwanger & Barry when they started their nursery in 1840.

One of the highlights of the Friday tour was a stop at the Lauweret Garden Store—one of the most complete 1-stop garden centers in the central New York state area. This expansive layout consists of a flower shop, a large salesroom, a greenhouse and extensive lath houses where both evergreen and deciduous plant material was attractively displayed.

Climaxing the 2-day meeting was a farewell luncheon at the Crescent Beach hotel, on the shore of Lake Ontario. Charles Mouquin, president of the New York State Nurserymen's Association, thanked those attending for making the meeting a success. Ben Stangler, who heads the Western New York Nurserymen's Association, especially thanked the nurserymen from Long Island and other points who traveled a considerable distance to join in the meeting. Mr. Stangler also congratulated Maynard DuRei, of the Gardening Council, who was official chairman of the meeting, for a most interesting and enjoyable program.

ROBERT WITHERELL, JR., operator of Haskell Creek Nursery, East State road, Olean, N. Y., has opened a garden supply store.

NEW address for the Davidson Floral & Nursery Co., Hastings, Neb., is 1215 East Third street. The business was formerly at 503 West Second street.

JETT NURSERIES is the name of a new firm that has been formed by Ivan Jett and Roscoe Holland at Georgetown, Ky., to grow bedding and nursery stock for wholesaling. About 10,000 plants are being lined out this fall on five acres, with plans being made for an additional planting of 25,000 plants next spring. Mr. Jett received his horticultural training at the University of Kentucky.

## Here's your fast profit-maker for the coming season



\*Plant Patent No. 1313

*Gleditsia triacanthos inermis aurea*

**Cash in on the spectacular demand created by national advertising.**

In less than a year the colorful, new SUNBURST has made a phenomenal record. Thousands sold on sight to retail buyers. As a result of extensive national advertising and favorable publicity in garden columns the demand will be greater than ever. We and our licensed growers are now prepared to supply you reasonable quantities of the fast-selling SUNBURST. Make sure of your supply now—order direct or from one of the following growers:

Huntsville Wholesale Nurseries, Huntsville, Ala.

Lake's Shenandoah Nurseries, Shenandoah, Ia.

A. McGill & Son, Fairview, Ore.

Mount Arbor Nurseries, Shenandoah, Ia.

Princeton Nurseries, Princeton, N. J.

J. Frank Schmidt & Sons, Troutdale, Ore.

Willis Nursery Co., Ottawa, Kan.



SUNBURST has the first new color in an ornamental shade tree in decades. A really good golden-yellow on branch tips contrasts sharply with rich green inner foliage to make it look like a flowering tree bursting with bloom.

SUNBURST is an unusually strong, clean, hardy tree that transplants easily, is widely adaptable and highly resistant to insects and disease. It grows straight with a stately form and natural symmetry. It's the kind of tree that makes satisfied customers for you.

### Three-quarters of a century of dependable quality.

Cole Nursery has been recognized for 75 years as a reliable source of landscape material of high quality. We can supply your needs promptly in large quantity and wide variety.

We will be glad to send you complete information on SUNBURST and other new Cole introductions. Write for our catalog showing all items.

### NURSERYMEN FOR 75 YEARS

**THE COLE NURSERY CO.**  
PAINESVILLE, OHIO

#### GINGKO - biloba

Transplanted Specimens, XXXX

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2½ to 3-in. cal., 12 to 15 ft. ....	Per 100
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# PLANT NOTES HERE AND THERE

By C. W. Wood

## Saxifraga Fortunei

*Saxifraga fortunei* is not for growers of the far north, because it is not reliably hardy under severe northern conditions and it blooms too late, in October and November, for us to see much of its flowering period, even when it lives over. But it should be well loved by gardeners farther south. That is true, first of all, for its late blooming and again for its adaptability.

My introduction to the plant was through the generosity of F. Cleveland Morgan, whose wonderful garden in Quebec greatly enriched this and many other gardens in the United States by gifts of seeds. I never asked him if it was hardy there, but should not expect it to be. And I never got around to ask Mrs. Wilder, before she died, about its hardiness in the vicinity of New York city. You will notice, though, that she speaks of it in her "Pleasures and Problems of a Rock Garden" in this manner: "*Saxifraga fortunei* is rare in this country but dearly prized where possessed for its rosette of thick bronzy leaves and its banner of white fringed blossoms held aloft in October." So my advice would be to go slowly with it in sections of cold until its hardiness has been established by trial.

There is no denying the fact that it is an attractive ornament from the time that it puts forth its tuft of round-lobed leaves, green to bronzed (largely depending upon exposure to the sun), until it sends up its much-branched flowering stem to a height of 10 inches, ending in a shower of small, pure white flowers, quite insignificant individually but most pleasing in the mass. The plant did best in my trials in a leafy soil, well-drained, in part shade. It is probably best grown from divisions in early spring.

Referring again to its hardiness, I notice that Farrer has this to say about it: "It thrives quite easily and hardily in rich soil, but must not be looked on as an indestructibly safe plant in cold or raw situations."

## Cynoglossum Nervosum

When practically everybody praises a plant, as is the case with *Cynoglossum nervosum*, it distresses me not a little to remain lukewarm about it. But I guess that will have

to be the case with this hound's-tongue, for these reasons: It is either not reliably hardy in northern Michigan or it is very short-lived, and it does not flower profusely for me, as some report it to do. On the right side of the ledger, is the lovely color—a bright blue, ultramarine, I believe the knowing call it—and a long-time blooming season, lasting from sometime in May well into September. Of course its adaptability, permitting it to grow without care in almost any sunny, well-drained situation, is another point in its favor. If it lasts more than two years in a given section, and the grower can induce it to flower freely (I mean many blooms at a time), he will have a splendid plant to offer

his customers. I found that I had to have a large group of the plants to produce a colorful display, but it could then be a really attractive thing for the summer garden.

## Smelowskia

Since writing a short note several years ago in this column on the rather unshowy group of cross flowers known to botanists as *smelowskia*, I have made further inquiries into the genus and grown again as many as I could find; so I am a little better prepared to answer a recent inquiry on them. I should say, though, that I am still poorly prepared to cover the entire group of a dozen or more species that are mentioned in the literature.

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<b>Hackberry</b>		
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2 to 2 1/2-in. cal.	6.50	
<b>Thornless Honey Locust</b>		
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<b>Silver Maple</b>		
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<b>Sycamore</b>		
8 to 10 ft.	3.25	
1 1/2 to 2-in. cal.	5.25	
2 to 2 1/2-in. cal.	7.50	
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<b>American Linden</b>		
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<b>Colorado Blue Spruce</b>		
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That same literature, which tries to be enlightening, is quite confusing to the gardener, because the American authors have renamed and split up what I knew as a young gardener as *S. calycina*, naming the different forms that the polymorphous species has assumed *S. americana*, *S. lineariloba*, *S. ovalis* and perhaps others. It may be that what was originally known as *S. calycina* deserves this splitting up, for it does vary somewhat in its growth, from Siberia across into Alaska and down the mountains into California, climbing higher as it travels southward, we are told. In all forms that I have had it, it is a small, tufted plant, with silvery foliage generally pinnatifid, though in at least one lot of seedlings I had some plants with entire leaves. The small, white flowers, rarely with a pink tinge, come in a rather close raceme. Its fortune is in its lovely, white, hoary foliage, especially in the closely related form which we had as *S. ovalis*. All my experience with this group told me that these high mountain plants are difficult to grow in the east, requiring the wet moraine if they are to be permanent.

Since writing the first note on *smelowskia*, I found a dry-soil species (I got it from an Idaho collector who found it in the near deserts

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<b>Pyramidal Arborvitae</b> (Thuja occidentalis)		
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of southern Oregon), *S. fremonti*, which may answer the eastern gardeners' call for one of these cross flowers. Its fortune, too, is in its foliage, which produces the general effect of a lovely gray-leaved fern, growing to a height of six or eight inches. Like others of its kind, the small, white flowers are quite unshowy, but the seed pods are usually decorative in their bronze tints. It did fairly well here in northern Michigan in light, well-drained soil in full sun, but was not markedly long-lived, perhaps from no fault of its own.

### Lonicera Maacki

In one of the early issues of this magazine under its present management, I had a note on *Lonicera maacki* in which I said I thought it would grow quickly into a bush 10 feet tall. I should like to correct that now to make it read 15 feet or more (I have one specimen that is more than 18 feet tall), but all the good things said about the shrub at that time still stand, and even more could be added. The bush honeysuckles include many a charming shrub, a selection giving plants with showy flowers over a quite long period in spring and equally showy fruits from July, when *Lonicera caerulea*, an Old World species now naturalized in this country, is displaying its pretty, dark blue berries, until winter, with the subject of the present sketch bringing up the end of the procession. There is no good reason why the Tartarian honeysuckle should get all the plant grower's attention when there are so many other good kinds. And anyone looking around for material to complete a line of honeysuckles should not overlook *L. maacki*.

It grows quickly into a large shrub, eventually 15 or more feet tall, clothed in pretty leaves showing a slight pubescence that gives it a grayish appearance. The large, white flowers turn yellow with age and are followed by showy scarlet fruits in September. There is another statement in my former note that I should like to correct now. There it was said that the fruits persist until November, which was based on observation of the plant in northern Ohio. Here in northern Michigan they always persist far into the winter, and some are often left when spring comes, if the winter birds do not clean them up. One of the encouraging sights of the long winters is to see the bright red fruits of this honeysuckle sparkling above a white expanse of snow. Variety *podocarpa* is lower growing, less

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EVERGREENS — SHRUBS — TREES

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<i>Juniper, Pfitzer</i> , 24 to 30 ins.	
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showy in flower, but even more desirable in fruit. Dormant hardwood cuttings root easily, and greenwood cuttings, treated with root-promoting substance, may also be handled under glass.

### Doronicum

A reader of this column, who conducts a neighborhood nursery and also has a local cut flower business, asks for some information on the doronicums.

The name represents a group of Old World composites, with showy yellow flowers in spring, useful as border ornaments and for cut flowers. They are generally easy to grow in the rich soil of the border in sun and are best increased from divisions. Of course, they may be grown from fresh seeds sown in an outdoor frame in autumn, but that is rather slow work. Dividing may be done in early spring, though that means the loss of most of the flowers the first year. I have read that they may be divided directly after flowering and have tried it with little success because the plants naturally go dormant during July and August, at least in the better kinds, and losses were heavy. The best way that I know is to divide the tuberous roots in winter, growing the pieces along in pots indoors.

Perhaps the best of the readily available kinds is the one known in gardens as *Doronicum plantaginifolium* excelsum. It is lower growing than the type, which may get to four or five feet in height in rich, moist soil and is therefore too tall for growing under glass. Excelsum will get about two feet tall, each flowering stem being topped with a single, yellow daisy as large as four inches across. In fact, the general tendency among the leopard's-banes is to be 1-flowered, except in *D. pardalianches*, the bunch-of-gold doronicum of gardeners, in which we find as many as five flowers to the stem. I should dislike to have to choose, though, between excelsum and the species, *D. caucasicum*, which also grows about two feet tall and produces its large, yellow daisies in spring. Any leopard's-bane that you find is quite sure to please you and your customers.

### Campanula W. H. Paine

I do not propose to get into the complex argument that has been raging in botanical circles for years over the names of the Adria bell-flowers (the name proposed by the late P. J. van Melle for the group of *C. elatines* varieties). If you are interested more in the plants than you

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(2-2), 6 to 8 ins.	8.00	50.00		(2-1), 2 to 4 ins.	6.50	35.00	
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500 Poplar, Bolleana, 5 to 6 ft. ....	80.00
500 6 to 8 ft. ....	120.00
100 8 to 10 ft. ....	170.00
1000 Poplar, Lombardy, 5 to 6 ft. ....	30.00
2000 6 to 8 ft. ....	40.00
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MENTOR, O.

are in the fine distinctions drawn by the taxonomists, you will allow me, I hope, to use the old specific name, *Campanula garganica* W. H. Paine. Under whatever name it is grown, it is a splendid garden plant, so adaptable that it will prosper almost anywhere that is not too dry (of course, it does not need an excess of moisture at any time), trailing about in typical *garganica* fashion and producing intermittently from early until late its pretty, white-eyed, bright blue-violet, starry bells. It is one of the earliest-blooming bell-flowers.

### Thoughts on Scillas

Beyond a doubt, the finest of the Siberian squills, *Scilla sibirica*, that I have seen is the form introduced several years ago as Spring Beauty. It is *sibirica* in all aspects, but a glorified *sibirica*, much larger of flower, taller of stem and of a rich cobalt-blue color. Incidentally, it is the only squill that is really worth forcing and should become immensely popular, for it is both easy and showy.

For a quiet corner in the spring garden (April), there is nothing more charming than the Lebanon squill, which botanists tell us to call *Pushkinia libanotica*. It has the same general habits of the squills, with pretty, blue-striped white flowers on 6-inch stems. On heavy soil, the plants are said to benefit from a generous dose of sand in their diet. Here in northern Michigan, I grew them anywhere in sun or shade under deciduous shrubs. There is another misnamed kind, *Scilla peruviana*, which has no connection with Peru, being a native of both sides, north and south, of the Mediterranean sea, nor with Cuba, which one might infer from its common name of Cuban lily. Nevertheless, where hardy, it would make a good garden ornament. It varies not a little in flower color, a violet color being the most prevalent in gardens, I am told, but purple and reddish purple finding many admirers. There is also a clear blue, which must be lovely in masses on plants to a foot in height, and the white form would surely charm gardeners. Southern growers are well advised, I suspect, when they are told to investigate this squill.

The English bluebell, *S. nonscripta* (*S. nutans*), and the Spanish bluebell, *S. hispanica* (*S. campanulata*), need no recommendation from me. They are well known and well loved in many gardens—hardy, floriferous, permanent. The two names seem to be used indiscriminately in nurseries

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and gardens; so it is not easy for the nonbotanist to know what he is growing. But that is less important than the fact that one is getting a good garden plant for spring decoration. There are many named varieties on the market from White Triumph to Peach Blossom and Blue King. The named kinds are propagated from offsets.

There are several other kinds, including the pleasingly fragrant *S. pratensis*, which I have never seen, and the charming little *verna*, which I have not seen for more than a score of years. I suspect the latter is a little tender for this climate, for I lost my small stock (obtained from several packets of seeds from the late Reverend Anderson of England) during a cold winter.

### Iris Hoogiana

A recent inquiry from an Indiana reader includes the following: "Will you please tell me how to grow the bulbous iris, *I. hoogiana*?"

I regret that I cannot help our correspondent, because this group of iris made me quickly give up trying to meet their cultural needs. Although *hoogiana* comes from Turkistan and should be hardy in Michigan, I was never able to keep it more than a year or two, making me think that it is too erratic for me. And that supposition seems to be borne out in the literature. Witness the following from Michael Vaughan: "Then there is the wonderful *hoogiana*, a prince among aristocrats, whose azure satin or China-blue frosted with a rosy sheen and a golden crest are, with the flowers' majestic poise, so enthralling in their mystic beauty that to try the plant again and again is irresistible. Even so, these irises—which are not bulbous, by the way—have for general garden purposes been superseded by the more tractable hybrids (*regelio* - *cyclus*) raised from their respective groups, and many of these are so inexpressibly beautiful that, as someone said of *hoogiana*, it would seem almost indelicate to attempt a description of their charms."

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**RUSSELL DENTON**, former manager of the Eccles Nurseries, Rimersburg, Pa., recently purchased the former Northrup Nursery, R. D. No. 1, Conneaut, O. Emphasis will be placed on growing Christmas tree seedlings, including firs, for the trade.

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(3-0), 6 to 12 ins. ....	10.00	45.00	42.50
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(2-0), 3 to 6 ins. ....	8.00	30.00	28.00
(3-0), 4 to 8 ins. ....	10.00	35.00	
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<b>Taxus densaiformis</b>			
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6 to 9 ins., XX ....	55.00		
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<b>Riga Scotch Pine</b>			
(2-0), 2 to 3½ ins. ....	5.00	24.00	22.00
(2-0), 3½ to 8 ins. ....	8.00	28.00	26.00
(2-1), 4 to 10 ins. ....	12.00	55.00	
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# Panel Discussions End Shade Tree Conference

By Noel B. Wysong

A complete account of the first two general sessions, August 21 and 22, of the National Shade Tree Conference convention at Toronto, Ont., Canada, was published in the September 15 issue of the American Nurseryman. Following is the report on the two panel discussions presented Thursday, August 23, the final day devoted to business, and a summary of the entertainment features of the convention.

## Utilities and Arboriculture

The Thursday morning program was prepared by the public utility arborists' committee and consisted of discussions of several phases of public utility arboricultural work. C. E. Lee, Southern California Edison Co., Ltd., Los Angeles, Calif., served as chairman of the session, and Stephen A. Pugh, forestry results and methods supervisor, Southern Bell Telephone & Telegraph Co., Atlanta, Ga., acted as moderator. Speakers and topics included Robert E. Jones, general supervisor of line clearance, Commonwealth Edison Co., Chicago, who spoke on "Training in Line Clearance Methods"; Harold Masters, supervisor of safety, Asplundh Tree Expert Co., Jenkintown, Pa., whose talk was titled "Everybody Wins"; J. W. Suggitt, supervising chemist, research division, and W. M. Grundy, chief forester, both of the hydro-electric power commission of Ontario, Toronto, Canada, who jointly discussed "Chemical Brush Control."

Supplementing his remarks with color slides, Mr. Jones described methods of teaching workmen line clearance procedures. Included in the training course given by Commonwealth Edison Co. are booklets and pamphlets distributed to the workmen. In addition to classroom instruction, workmen are given practice under conditions that simulate actual field operations.

In his part of the program, Mr. Masters stressed the importance of teaching safety to workmen. He said his company had learned that teaching by visual methods produced the best results. He presented a series of cartoon slides depicting various types of accidents which commonly occur through carelessness on the

part of the employee. He also presented a film in color and sound, "Like a New Man," which featured the occurrence of a near accident, the measures taken by the tree service company to impress the guilty employee of its potential consequences and the employee's reaction to this teaching.

## Brush Control

In discussing chemical brush control, Mr. Suggitt said about 475,000 pounds of 2,4-D and 2,4,5-T were used annually in Ontario to treat 75,000 acres of brush-infested land. The area sprayed included tracts in cities and lands under the control of

electric power companies, railroads and highway departments. Both foliar sprays and basal applications were used in the control work, he said. Equipment used in the spray operations included conventional truck-mounted sprayers, where topography and land conditions permitted, and a machine known as a "muskeg tractor"—similar to a crawler-type tractor—where swampy areas and more rugged land conditions were involved. A piece of equipment pictured, which was new to most of the delegates, consisted of a 300-gallon tank made of heavy canvas carried on the spray truck instead of the usual metal or wood tank. This, it was explained, was used because of the difference in weight, an important factor in operating in the rougher sections of the country.

All brush control crews are given training both in techniques of spraying and public relations, Mr. Suggitt said, before being placed in the

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field. All owners of property adjoining the tracts scheduled for treatment are contacted before spray operations are started, he said, which makes for good public relations. Commenting on the effects on wildlife of the brush control operations, he said it had been found that there was a general increase in game within a few years after removal of the dense brush. He suggested that this occurred because of improvement of food supplies in the areas treated. In comparing costs of cutting and spraying, he said cutting costs averaged about \$70 per acre while spraying ranged from \$16 to \$40 with an average of about \$27 per acre. In tracts where basal sprays were applied the cost was approximately \$35 per acre.

### Trees in Town Planning

The final afternoon of the convention was devoted to a panel discussion of "Trees in Relation to Town Planning." Eric Baker, past chairman of the Humber river valley conservancy survey, Toronto, acted as panel moderator, and panel members included M. R. Hancock, director of planning, Donmills Development, Ltd., Donmills, Ont.; C. R. Purcell, realtor, Toronto, and Dr. E. G. Faludi, president of Town Planning Consultants, Ltd., Toronto, Ont.

Speaking on the topic "Realty Value of Trees," Mr. Purcell said that the dollar value of trees is great—they are the world's most stable and beautiful commodity. Trees are used almost universally, he asserted, as a selling point in real-estate transactions and added that they may be the biggest asset of the property. Ontario law, he said, does not yet recognize the value of shade trees, but it has placed a dollar value on fruit trees at \$10 each as a minimum. In many real-estate and subdivision developments in the Toronto area, he said, shade trees are highly valued. He mentioned one new subdivision in which the developers had placed a value of \$300 on each shade tree in the area. The figure was based, he explained, on tree replacement cost. He said he felt that, in general, the people of Toronto were becoming increasingly shade tree conscious and were valuing their trees much more highly than had been customary in the past. Mentioning the current Toronto movement for a green belt development around the city, Mr. Purcell said most of the realtors of the area favor the proposal, for they think it will increase land values in addition to the other less tangible values



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24 to 30 ins. ....	3.25	3.00	24 to 30 ins. ....	6.25	6.00
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4 to 5 ft. ....	6.50	6.25	<i>Taxus moonii</i> , 18 to 24 ins. ....	5.75	5.50
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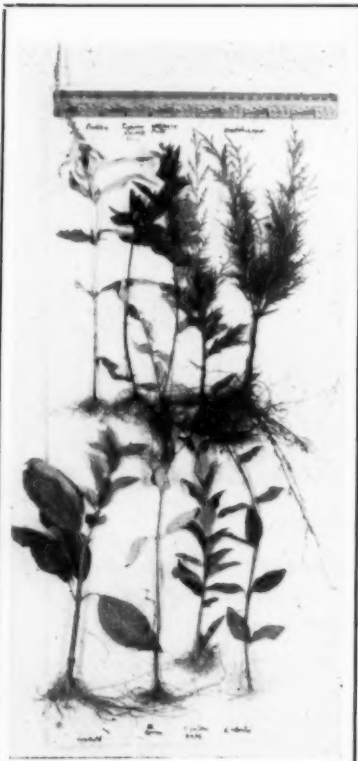
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#### Green Belts

Dr. Faludi discussed "The Town Planner's Viewpoint with Respect to Green Belts in Town Planning." The first step in planning this type of development, he said, consists of deciding upon goals to be accomplished and defining these goals so definitely that there will be no misunderstanding of their purpose. He said green belts may consist of various types of landscape development. Among these he included grassland around the city; agricultural land; a landscaped parkway; a series of major parks connected by landscaped roads or parkways, and open or partially wooded areas not suited to residential development which could be put to recreational uses.

Green belts around a town may function, Dr. Faludi said, as a check to the spread of built-up areas; as a means of preserving natural attractive features of the landscape; as a method of breaking up a city's development into smaller neighborhoods; as a means of tying together shopping areas, schools and playgrounds, and as a barrier between industrial and residential districts.

#### Landscape Viewpoint

M. R. Hancock presented "The Landscape Architect's Viewpoint with Respect to Saving Existing Trees," in which he questioned the advisability of always attempting to preserve existing trees in new subdivision or landscape developments. Whether or not an attempt should be made to save such trees depended, he said, upon many factors. Often, he pointed out, new subdivisions were developed in densely wooded areas containing trees that had grown under natural forest conditions and therefore tended to be tall with relatively small crowns. Such trees seldom made good shade trees; frequently they could not tolerate changes in environmental conditions that occurred as a result of developing the area for residential use. The making of land surveys, the construction of streets, the installation of underground utilities, the excavation of basements and similar construction activities constituted definite and often extreme hazards to existing, mature trees, he said. He said it was often more economical and more productive of satisfactory results in the long run if existing forest-type trees were removed and replaced with desirable shade tree species.

In the open discussion that fol-

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lowed presentation of the formal papers of the session, many interesting points in connection with the development of cities in Ontario were brought out. The panel members were in general agreement that often residents in newly developed subdivisions wanted trees nearby, but not necessarily upon their own lots. One way of meeting this situation, it was said, was through the development of small neighborhood parks, and this was provided for, in many cases, by ordinances requiring the subdivider to set aside 5 per cent of the subdivision area for park purposes.

#### Park Development

It was stated that in the Toronto area, land under private ownership may legally be zoned for eventual park development, and after that is done the use of such areas for subdivision or industrial purposes can be prevented. Several subdivisions were said to have been developed, or are under construction, in which there are no sidewalks or street curbs; these are planned as purely residential areas with little automobile traffic. In such areas, it was pointed out, the streets serve to a large extent as playgrounds for the children of the neighborhood, and automobile drivers, realizing this, are extremely careful. They were said to be highly successful developments.

Social activities of the convention consisted of the Canadian hospitality party held Monday evening; a cruise of the Toronto water front Wednesday evening on a large pleasure boat chartered specifically for the conference delegates, and a cocktail hour and the annual banquet with entertainment and dancing Thursday evening. The ladies' program included an informal get-acquainted party; a sight-seeing tour of Toronto; a visit to Casa Loma, a fascinating, castlelike structure built near the turn of the century, and a tour of the James Gardens and a shopping tour of Toronto's stores.

A field demonstration of tools and equipment used in arboricultural work was held in Toronto's beautiful High park Wednesday afternoon. Most of the 30 firms and dealers represented in the commercial exhibits participated in the demonstration, which was well attended and enjoyed by the conference delegates.

The next meeting of the National Shade Tree Conference will be held in August, 1957, at Philadelphia.

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#### NUTRIENT SPRAYS ON BARK

Trees grown on soil deficient in certain micronutrients — minerals required in minute amounts — can best be fed some of these essential elements through their bark by applications made late in the dormant period, just before spring growth starts, say scientists of the United States Department of Agriculture.

Recent studies at the U. S. D. A. agricultural research center, at Beltsville, Md., show that nutrient sprays will enter dormant trees only through pruning wounds and other breaks in the bark, but not through uninjured bark. Absorption of nutrients through healthy bark occurs only after growth starts.

Deficiencies of micronutrients occur in many scattered soils in western irrigated areas and along the Gulf and Atlantic coastal plains. Some trace minerals—zinc and iron, for example — are difficult to supply through the soil, since other soil constituents convert them to unavailable form. That often keeps plants from getting enough of these minerals when naturally present or applied to the soil.

#### Late Dormant Spraying

Foliar sprays are an effective means of applying nutrients, but some sprays, including those containing zinc and iron, cause severe foliage burn on some species under most conditions. Since these two elements are among those that cannot be supplied through some soils, late dormant spraying is a practical solution. That makes it important for growers to know when trees are ready to take in the bark sprays.

The Beltsville research indicates that the best time to apply nutrient materials and avoid injury to leaves is just before tree growth starts. There is then a minimum chance of the material's being washed off before absorption through the bark can occur.

Plant physiologist C. P. Harley and coworkers of the U. S. D. A.

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agricultural research service discovered that bark feeding works best when trees are growing, by treating apple trees at Beltsville with needed mineral elements and then testing the trees' tissues for evidence of these elements.

### Compounds for Treatments

The treatments were made with nitrogen (from urea), phosphorus (from radioactive potassium acid phosphate) and rubidium (from radioactive rubidium chloride). The compounds were painted in bands around the branches of trees, and tests were made periodically in various tissue layers in the treated zone and at various distances up and down the branches.

The scientists believe that the principles of bark feeding discovered in tests with nitrogen, phosphorus and rubidium also govern a tree's receptiveness to zinc, iron and other minor elements that would normally be supplied by bark feeding. Fortunately, the major plant nutrients — nitrogen, phosphorus and potassium — can usually be supplied through the soil.

None of the elements tested were found beneath the uninjured epidermis of treated trees during February. They did appear in phloem and xylem tissues where the bark had been scraped or cut, although there was no translocation of the elements at this time.

### Penetration When Growth Starts

Early in April, however, when flower buds were in the green tip to cluster stage but vegetative buds were still tight, substantial amounts of the nutrients showed up beneath normal bark that had been treated, even some distance from the point where applied. Scraped or cut surfaces absorbed much more of the materials, and frozen bark took in somewhat less. It was clear that penetration in uninjured bark does not occur until the tree is growing.

Rain water, dew and the normal moisture which transpires outward through the bark dissolve the nutrient salts and wash them through longitudinal and transverse cracks to the tree's absorptive phloem tissues. When growth starts, the materials move inward and radially to the internal transport channels that carry nutrients upward and downward in the tree.

The nutrients showed up in buds and shoots first. In mid-April greatest concentration was in the flower buds. At the end of April, the material was most concentrated in the rapidly growing young terminal leaves.

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*Juniperus chinensis	Per	Per	Juniperus horizontalis	Per	Per
pfitzeriana, 2-yr.,	100	1000	(Bar Harbor Green Juniper) 100	100	1000
6 to 8 ins., field-grown..	\$22.50	\$200.00	1-yr.,		
8 to 12 ins., field-grown..	27.50	250.00	6 to 10 ins., field-grown..	12.00	100.00
Juniperus chinensis			2-yr.,		
sargentii, 1-yr.,			8 to 12 ins., field-grown..	15.00	150.00
6 to 10 ins., field-grown..	15.00	150.00	Juniperus horizontalis		
Juniperus communis			plumosa (Andorra Juniper)		
ashfordii, 1-yr.,			1-yr.,		
6 to 8 ins., field-grown..	10.00	90.00	6 to 8 ins., field-grown..	12.00	100.00
8 to 12 ins., field-grown..	15.00	100.00	8 to 12 ins., field-grown..	15.00	120.00
Juniperus communis			*2-yr.,		
canadensis, 1-yr.,			8 to 12 ins., field-grown..	17.50	150.00
6 to 10 ins., field-grown..	12.00	120.00	Juniperus sabina		
Juniperus communis			(Savin Juniper), 1-yr.,		
fastigiata			6 to 8 ins., field-grown..	10.00	85.00
Juniperus communis			8 to 12 ins., field-grown..	12.00	100.00
hibernica, 1-yr.,			*2-yr.,		
6 to 8 ins., field-grown..	12.00	100.00	8 to 12 ins., field-grown..	17.50	150.00
8 to 12 ins., field-grown..	15.00	120.00	Juniperus sabina		
Juniperus conferta			vonchroen, 1-yr.,		
(Shore Juniper), 1-yr.,			6 to 12 ins., field-grown..	12.00	120.00
6 to 10 ins., field-grown..	12.00	120.00	Juniperus squamata meyeri		
Juniperus excelsa stricta			2 1/2-in. pots .....	25.00	250.00
(Greek Juniper), 1-yr.,			Thuja occidentalis		
6 to 8 ins., field-grown..	12.00	100.00	pyramidalis		
8 to 12 ins., field-grown..	15.00	120.00	2 1/2-in. pots .....	20.00	175.00
Juniperus glauca hetzi			Thuja orientalis Blue Cone		
(Hetz Juniper), 1-yr.,			2 1/2-in. pots .....	20.00	175.00
6 to 12 ins., field-grown..	12.00	100.00	*Root-pruned and twice sheared.		

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Abelia grandiflora, 1-yr.,	Per	Per	Ilex cornuta burfordii	Per	Per
6 to 12 ins., field-grown..	\$ 6.00	\$ 50.00	2-yr., 2 1/2-in. pots	100	1000
Berberis julianae			(heavy) .....	17.50	150.00
2 1/2-in. pots .....	20.00	175.00	3-yr., XX,		
Berberis mentorensis			8 to 12 ins., field-grown..	20.00	200.00
2 1/2-in. pots .....	15.00	125.00	Ilex crenata convexa		
Cotoneaster divaricata			Ilex crenata hetzi		
Cotoneaster francheti, 2-yr.,			Ilex crenata rotundifolia		
XX, 8 to 12 ins.,			2 1/2-in. pots .....	17.50	150.00
field-grown .....	15.00	120.00	Ilex helleri		
12 to 18 ins., field-grown	17.50	150.00	2 1/2-in. pots .....	20.00	175.00
Euconymus carrierei			Jasminum floridum		
2-yr., XX,			Jasminum nudiflorum		
8 to 12 ins., field-grown..	15.00	125.00	2-yr., XX,		
Euconymus coloratus erectus			8 to 12 ins., field-grown..	15.00	120.00
2-yr., XX,			Viburnum burkwoodii		
12 to 18 ins., field-grown	17.50	150.00	2 1/2-in. pots .....	17.50	150.00
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2-yr., XX,					
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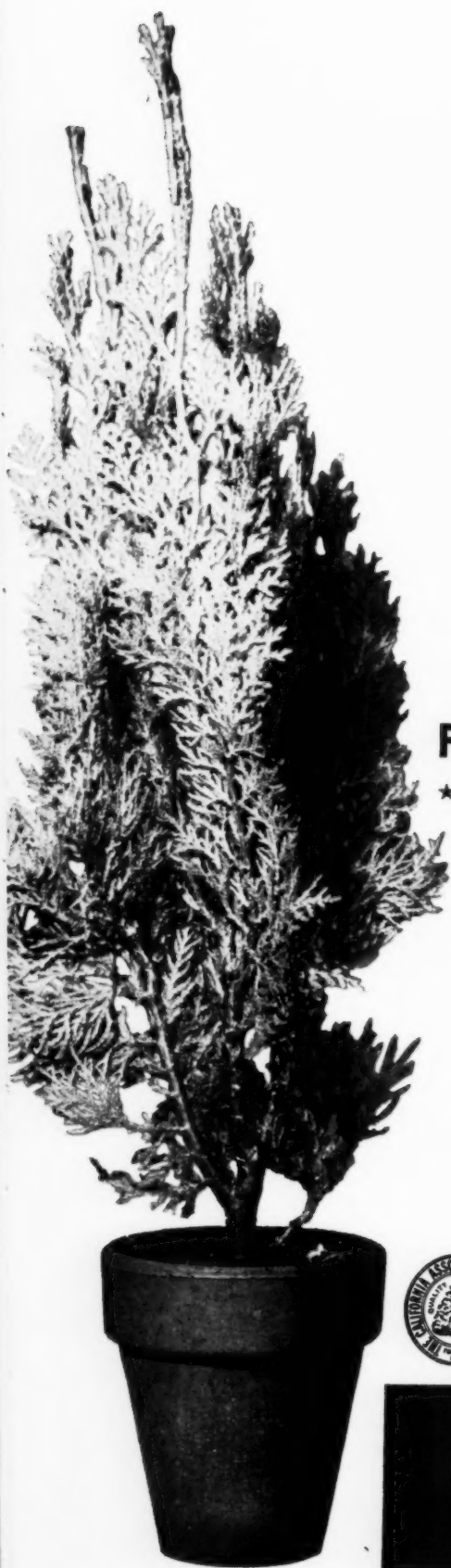
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# Changing Times Present Landscape Problems

By Charles W. Harris

Every 12 seconds a potential customer is born, and by next year our population will have increased 2,500,000, enough to build four and one-half more Indianapolis metropolitan areas or one new city the size of Boston or Pittsburgh. The housing alone will require 800,000 new homes a year.

The greater percentage of these new homes will be built in rural or suburban areas. Good cars and highways will continue this present pattern. Increased use of air travel (personal planes and helicopters) will give greater impetus to this trend.

The knock on the door gets louder with Walter Reuther's prediction that by 1965 we will have a 32-hour, 4-day week. He sees this brought about by growing use of push buttons, electronic machinery and technological improvements. Nuclear and solar energy will free us from restrictive power sources so that we can develop new, better planned communities in more desirable climates and attractive landscapes.

## Preparing for Change

Perhaps in another year we will have the means to build new communities enclosed in a mile-high plastic dome. One professor at the University of Illinois is working on this for the air force. If this effort is successful, we may soon be living in a tropical greenhouse, where buildings will be merely sunshades and screens inside the enclosed plastic dome. No house and lot, but a total space in which to live. A California physicist has in an experimental form an air-walled house which could make our present houses just dissolve into the landscape.

Large windows and TV have already brought the whole world into our homes. With the help of TV advertising, past luxury items are turned into necessities. We have not begun to explore the use of TV in our businesses and industry. G. M.'s Powerama display showed housewives closed-circuit TV for supervising the rear play areas as well as

for seeing who's at the front door. Tomorrow we may be shopping by Telo-phone, etc.

This is the challenging knock on our door that prompts an answer. I have told the students at Illinois that they had better look around them closely, because in 10 or 20 years everything we see today will undoubtedly be improved or changed. One of the hard lessons to learn in life is the necessity for change and its essential part in the growth of human society. Whether we like it or not, it is impossible to hold a status quo. Our experience seems to prove that the so-called practical people turn out to be

dreamers, while the visionaries of today turn out to be the realists of tomorrow.

## Are We Visionary?

This raises a serious question in my mind—if many of us have taken the time to be practical in a visionary sense concerning the development of the outdoors. What big idea have we recently added to our cultural improvement in the uses of the outdoors? At a time when people seem most receptive to new and better solutions to problems, we are offering them little. Do not more and more people and groups have the desires and money to enjoy a fuller life? Now is the time to sell a big, exciting idea about outdoor living. Many magazines are doing this.

It seems that one of the reasons landscape construction problems face us more today is this factor of constantly changing. If we decide to buy a new car, we want it delivered yesterday. So it is with deciding to buy a home; people expect it to look

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## BROAD-LEAVED EVERGREENS

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Talk given by Charles W. Harris, assistant professor, University of Illinois, Champaign, on the topic "Landscape Construction" at a meeting of the Indiana Association of Nurserymen at Purdue University, Lafayette, Ind.

All of our cuttings are rooted in soil. As soon as they root, they usually begin to make some new growth—often a great deal—and always begin to develop a hard, secondary root system. After a few months many are about equal to light bed-grown liners, although we continue to call them rooted cuttings.

So that you can judge what we are offering, we give the month in which the cuttings were rooted. That is, "RC June 55" would mean cuttings rooted during June, 1955, which have been growing in the soil in which they were rooted ever since. The amount of growth and the development of the root system will be in proportion to the time that has elapsed since they were rooted.

All plants go through our normally severe winters outside, so you can depend on receiving thoroughly hardened and dormant liners. However, spring does come early here. Some varieties will show activity by March 10 and nearly all begin some growth by the first of April, so please order early.

BG—bed-grown RC—rooted cutting  
F—field-grown Mo., Yr.—date rooted  
T—transplanted S—seedling

**Berberis julianae**—RC, July 56, 8c; BG, T, 4 to 6 ins., 20c.

**Berberis julianae nana**—Compact type, often called "BPI", RC, Aug. 56, 10c; BG, T, 4 to 6 ins., 22c.

**Berberis mentorensis**—RC, July 56, 7c.

**Berberis thunbergii**, thornless—RC, April 56, 8c; BG, T, 6 to 9 ins., 15c.

**(CHAENOMELES (Flowering Quince))** All on own root from softwood cuttings. No suckering from these:

**Nivalis**—The best of the white-flowering quinces. Large, pure white flowers borne in profusion. Good clean grower, vigorous and upright with few, if any, thorns and no fruit.—RC, June 56, 10c; BG, liners, 8 to 12 ins., 18c; 12 to 18 ins., 24c; 18 to 24 ins., 30c; 2 to 3 ft., 50c.

**Juliet**—Light pink flowers.

**Texas Scarlet**—Bright red flowers, compact, low plant. The best for container growing because it blooms profusely over a long period.

**Margaret Adams**—Coral-pink, the best of its color.

**Blood Red**—Bright red flowers in big clusters.

**Pink Lady**—Deep pink flowers.

**Ruby Glow**—Very deep and rich red with golden scarlet.

**Early Apple Blossom**—Light clear pink.

**Mt. Everest**—White with just a touch of lavender and rose. Very vigorous and upright.

Any of the above—RC, 10c; BG, liners, 4 to 12 ins., 20c; 12 to 18 ins., 30c; 18 to 24 ins., 45c; 2 to 3 ft., 20c.

**Japonica alpina**—Genuine, from cuttings, very showy, low shrub of very long blooming period. Quite scarce—RC, 15c; BG, liners, 6 to 12 ins., 30c; 12 to 18 ins., 50c; 18 to 24 ins., 75c.

These are the best, so far, of the more than 55 named varieties we have on test. 30 could be shipped before March 1. Simply heel in until planting time. Will keep perfectly. The RC size should be potted or bedded.

**Cherry Laurel**—See *Prunus*.

**Cotoneaster apiculata**—T, F, well-branched, 9 to 12 ins., 25c; 12 to 18 ins., 35c.

**Cotoneaster horizontalis**—T, F, well-branched, 9 to 12 ins., 25c; 12 to 18 ins., 35c.

Both cotoneasters grow beautifully in containers.

**Cydalis**—See *Chaenomeles*.

**Euonymus alatus compactus**—RC, June 56, large, 8c.

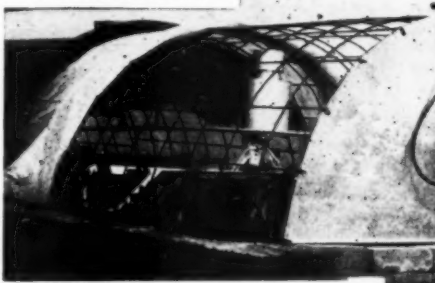
**Euonymus patens (knautschovicus)**—Large-leaved, T, F, 9 to 12 ins., liners, 15c; 12 to 18 ins., branched, 25c.

**Euonymus patens (knautschovicus)**—Small-leaved, usually called "carrieri" in the south, "radicans erecta" in the north. RC, Aug. 56, 6c; T, F, 12 to 15 ins., branched, liners, 15c; 12 to 15 ins., bushy, 25c.

**Euonymus fortunei carrieri**—This is the true carrieri. An evergreen climber with random variegation and orange fruit. A beautiful plant. BG, T, 8 to 12 ins., 25c.

## LINERS

FROM OPEN BEDS  
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Foremost in intermittent mist propagation.  
Originator of the Electronic Leaf Control.



**Euonymus fortunei minimus (kewensis)**—A dainty evergreen climber with tiny leaves, charming. RC, Aug. 56, 10c.

**Ilex cornuta burfordii**—RC, June 56, heavy, 6 to 12 leaves, 8c.

**Ilex cornuta femina**—RC, June 56, heavy, 6 to 12 leaves, 8c.

**Ilex crenata convexa (bullata)**—RC, July 56, 7c.

**Ilex crenata hetzi**—RC, July 56, 8c.

**Ilex rotundifolia**—RC, July 56, extra-large, 7c.

**Ilex opaca** (American Holly) — Northern type—No southern hybrids. Guaranteed female and guaranteed male from cuttings.

BG, liners, mostly single stem, some lightly branched, 4 to 6 ins., 17½c; 6 to 10 ins., 25c; 10 to 15 ins., 35c; for canning in gallon cans, 15 to 20 ins., 50c.

**American Holly Hedge**—Beautiful and unusual. Shears perfectly to any size.

All male plants from cuttings. Male because of uniform better color and by-passers won't break it up for decorations. 3-yr. transplants, BR., branched, 18 to 26 ins., 80c.

**Ilex vomitoria**—Guaranteed female, selected strain. RC, Mar. 56, 10c; BG, 4 to 8 ins., 15c; 6 to 9 ins., 20c; 9 to 12 ins., 30c.

**Jasminum floridum**—BG, 8 to 12 ins., 10c; T, F, 12 to 18 ins., 20c.

**Jasminum nudiflorum**—BG, 8 to 12 ins., 10c.

**JUNIPERUS**—All rooted cuttings of Juniperus are a year old from short greenhouse-type cuttings. Grown in soil in full sun and sheared 2 to 5 times to produce a stubby 6 to 7-in. plant of real character, yet still small enough to be established in a 2½ or 3-in. pot.

**Juniperus Andorra**—RC, Nov. 55, 9c each, \$85.00 per 1000.

**Juniperus hetzi**—RC, Nov. 55, 9c each, \$85.00 per 1000.

**Juniperus pfitzeriana**, green—RC, Nov. 55, 10c each, \$95.00 per 1000.

**Juniperus pfitzeriana**, blue—RC, Nov. 55, 12c each, \$115.00 per 1000.

We also transplant the rooted cuttings to the open field where they are grown another full year and trimmed at least twice to produce a full, shapely plant with no suggestion of legginess. Perfect for quick establishment in containers or wrapping for mail order.

**Juniperus Andorra**—T, F, 6 to 9 ins., 18c; 9 to 12 ins., 25c; 12 to 15 ins., 35c.

**Juniperus hetzi**—T, F, 9 to 12 ins., 25c; 12 to 15 ins., 35c.

**Juniperus hibernica fastigiata**—T, F, 9 to 12 ins., 20c; 12 to 15 ins., 30c.

**Juniperus pfitzeriana**, green—T, F, 4 to 6 ins., 18c; 6 to 9 ins., 24c; 9 to 12 ins., 30c; 12 to 15 ins., 40c.

**Juniperus pfitzeriana**, blue—T, F, 6 to 9 ins., 25c; 9 to 12 ins., 35c; 12 to 15 ins., 45c.

**Laurocerasus**—See *Prunus*.

**Mahonia bealei**—1-yr., seedlings, just right for potting, 6c; 2-yr., BG, T, 4 to 6 ins., 12c; 6 to 9 ins., 18c; 9 to 12 ins., 25c.

**Prunus laurocerasus schlipkaensis** (Laurel Cherry)—RC, July 56, 10c; BG, 6 to 9 ins., 20c; T, F, 8 to 12 ins., 30c.

**Prunus laurocerasus zabeliana** (Laurel Cherry)—RC, July 56, 10c; BG, 6 to 9 ins., 20c; T, F, 8 to 12 ins., 30c.

**VIBURNUMS**—All are on their own roots from softwood cuttings. The field transplants are pinched back several times a year to make well-branched plants.

All transplant readily with complete success if dormant. They should be shipped by the first part of March and will keep perfectly if heeled in until planting time (the earlier the better).

**Viburnum burkwoodii**—RC, June 56, 10c; T, F, 9 to 12 ins., 25c; 12 to 15 ins., 40c.

**Viburnum carlesii**—RC, June 56, 15c; T, F, 6 to 9 ins., 35c; 9 to 12 ins., 55c; 12 to 15 ins., 75c.

**Viburnum chenaultii**—More shapely and attractive than burkwoodii, nearly evergreen, should soon supplant burkwoodii — RC, June 56, 12c; T, F, branched, 9 to 12 ins., 35c; 12 to 15 ins., 50c.

**Viburnum Juddi**—Better than carlesii. A more compact plant with more attractive leaves, not subject to leaf spot. — RC, June 56, 15c; T, F, branched, 6 to 9 ins., 35c; 9 to 12 ins., 55c; 12 to 15 ins., 75c.

**Viburnum rhytidophyllum**—(Leather-leaved Viburnum), RC, June 56, 10c; BG, 6 to 9 ins., 17½c; T, F, not all branched, 9 to 12 ins., 25c; 12 to 18 ins., 35c.

**Viburnum rhytidophyloides**—Hybrid between V. rhytidophyllum and V. lantana. Much like rhytidophyllum but is hardier — RC, July 56, 15c.

**Viburnum tomentosum mariesii**—A much-improved form of V. tomentosum.—RC, July 56, 15c.

**Weigela vanicheckii**—BG, single cane, 18 to 20 ins., 17½c; 1-yr., T, F, 2 to 3 ft., 1 and 2 canes, 25c; 3 canes and up, 45c.

Also many other unusual plants. Write for complete list.

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like the finished item two or three months later. They have been sold on the idea. But not many of us are prepared to show them how they can realize this goal. Many of us even resist their accepting the idea, because we see certain weaknesses in our own ability any longer completely to solve these people's problems.

In the work in which you are engaged you learn that it takes time to grow good plants, and yet are not there more people willing to pay for larger plants or, in effect, buy time? The architects are helping you out there, because they have removed the building walls, and now people cannot ignore an unattractive site. They are getting impatient and

do not want to wait 10 or 20 years so that they can have privacy, use of their outdoor spaces, shade, etc. The glass walls make neatness and year-round effects important, along with low maintenance, because labor costs more than materials in most situations.

There seem to be three possible answers to this problem of immediate



## SURPLUS STOCK

*Abelia grandiflora* Per 100 Per 1000

(Glossy Abelia), field-grown		
1-yr., 6 to 12 ins., C.	\$ 5.00	\$ 40.00
1-yr., 12 to 18 ins., C.	6.00	50.00
2-yr., 12 to 18 ins., br.	11.00	100.00
3-yr., 18 to 24 ins., well-br.	20.00	175.00
3-yr., 2 to 3 ft., well-br.	35.00	

(Add 50c per plant for B&B)

*Hydrangea paniculata grandiflora*

(Peegee Hydrangea)		
1-yr., 6 to 12 ins., C.	5.00	40.00
1-yr., 12 to 18 ins., C.	7.00	60.00
2-yr., 12 to 18 ins., br.	8.50	75.00
3-yr., 18 to 24 ins., well-br.	11.00	100.00
3-yr., 2 to 3 ft., well-br.	20.00	

*Spiraea vanhouttei*

(Van Houtte Spiraea)		
1-yr., 6 to 12 ins., C.	3.00	20.00
1-yr., 12 to 18 ins., C.	4.00	30.00
2-yr., 12 to 18 ins., br.	5.00	40.00
2-yr., 18 to 24 ins., well-br.	6.00	50.00
3-yr., 2 to 3 ft., well-br.	20.00	

*Hydrangea quercifolia* Per 10 Per 100

(Oakleaf Hydrangea)		
12 to 15 ins., T.		
3 canes and up ..	\$ 3.00	\$ 25.00
15 to 18 ins., T.		
3 canes and up ..	4.00	35.00
18 to 24 ins., T.		
4 canes and up ..	6.00	50.00
24 to 30 ins., T.		
4 canes and up ..	7.50	65.00

*Cornus florida*

(White-flowering Dogwood)		
3-yr., 2 to 3 ft., br.	5.00	40.00
3-yr., 3 to 4 ft., br.	8.50	75.00
4-yr., 4 to 5 ft., br.	11.00	100.00
4-yr., 5 to 6 ft., br.	15.00	125.00

(Add 50c per plant for B&B)

### NATIVE EVERGREENS

*Rhododendron maximum*,  
*Kalmia latifolia*, *Ilex opaca*,  
*Tsuga canadensis*

	Per 100	Per 1000
3 to 6 ins., S.	\$3.00	\$20.00
6 to 9 ins., S.	4.00	30.00
9 to 12 ins., S.	6.00	50.00
12 to 18 ins., S.	8.00	70.00

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results: (1) Plant full-grown materials, (2) plant fast-growing materials and (3) use constructed or architectural items only relieved by decorative planting or some combination. Many builders across the country are recognizing this need and are getting people to help solve the problem. They have begun to sell completely furnished outdoor rooms around their houses. It helps sell houses and gets the costs included in the long-term loan.

At Denver last summer and at Mattoon, Ill., I saw this happening. I noted that in these instances the designers, trained landscape architects, were forced or chose to use largely constructed materials to solve the needs. Last summer's magazines had numerous ads by manufacturers who were advocating use of their product in the outdoors. These people are looking around for ways to use their products and find the outdoor uses largely unexploited. The G. E. outdoor lighting booklet shows the way. The firm even promotes good design and advocates hiring a landscape architect. These people are finding a designer their best salesman.

As furnishers of plant material, you will undoubtedly face more and more competition for the public's dollars. Perhaps we should all get together as they are doing in California and sell the big outdoor living idea. If we cannot lick them, join them!

There is no denying the public's love and desire for plants, but when given the choice between waiting five to 10 years or immediate effects, everything being equal, most would select a combination of constructed elements with some plants. The only two present things on the side of our pure plant approach in this region is momentary price difference and having no one else really trying to sell anything else. This situation shows signs of changing.

I personally hope that there can be a happy blend, where each material will be used to solve its function best. Seldom does one find a situation where either all plants or largely constructed elements would dominate. I should like to describe how people in several areas across the country have begun to solve their own local problems. These ideas are best suited for the area for which they were designed, but they may serve to stimulate our thinking and appreciation of the possibilities of making a better and much more pleasing design by mixing both kinds of materials.

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- FLOWERING TREES
- SHADE TREES
- SHRUBS
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Azaleas, Camellias and Magnolias our specialties.

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To answer this knock on the door, let us line up the important problems presented by any site, whether house, school or shopping center:

A. Access and circulation through the property (pedestrian and vehicular).

B. Adjusting slopes and drainage to human land use needs.

C. Protecting ground surfaces from wear and erosion, by paving, etc.

D. Creating barriers for privacy, protection, climate control, etc.

E. Ornamental and contrasting elements in the landscape.

F. Maintenance and plant protection, mowing problems and wandering feet.

To go into some brief detail, I shall outline some of the problems and considerations for each.

A. Access and circulation. Adequate drives and parking are essential. Too frequently we make them too small and too tight for easy turning. Off-street parking is becoming more common and even required by law. Back-arounds are a good safety investment.

#### Walks

Walks should be more generous and less curving (without some apparent reason, as around a tree). Do not place walks next to buildings and avoid one or two steps and steep slopes. Pitching or crowning the walk surface is good, and raising it one inch above finish grade will help keep a dry walk surface. Stepping-stones are generally poor, at best. Use walks as mowing edges and curbs between gravel drives, flowers, etc. Make walks seem as the only logical way of reaching the destination.

B. Grading and drainage. We usually grade to get drainage and need slope away from the building about 1 foot per 50 feet. Frequently we may need a slight valley or swale to pick up runoff water. If possible, avoid running water across walks and drives, and channel runoff water to places where it can soak away rather than into storm sewers.

Of course, save and stick-pile all topsoil. Surplus soil often can be used for many practical and artistic purposes without spreading it over the site or hauling it away. Experiments have been made and are being made with soil mounds on street sides to absorb sound and act as screens. We just completed a problem where we used excess soil as playmounds on the local school grounds. Mound gardening is not new, as you know, and was popular in Japan centuries ago.

C. Surfacing. The amount and



## Get in the Swim With Suwannee River!

Suwannee River Ligustrum, suh, continues to amaze us with its cold resistance and ability to take whatever the weatherman throws at it. It was happy last winter in Westchester county, N. Y.—and that's cold country to us Southerners, suh! Suwannee River, with its beautiful dark green foliage, compact growing habit and all-around ability to take what comes, will delight both you and your most discriminating customers.

Lower prices through increased production give you an attractive markup, even when priced to reach the mass market.

Go Suwannee River! Sizes from gallon cans to 3-foot specimens. Ask for wholesale prices. Many other grand buys so you can easily make up an economical tractor-trailer load of money-makers for you.

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	Per 10	Per 100
Barberry, thunbergi		
3-yr., 16 to 18 ins., T.	\$3.00	\$25.00
3-yr., 18 to 24 ins., T.	4.00	35.00
3-yr., 24 to 30 ins., T.	5.00	45.00
Buddleia—Burgundy, Ile de France, White		
2-yr., No. 1	3.50	30.00
BUSH HONEYSUCKLE—		
morrow, tatarica rubra		
2 to 3 ft.	3.50	30.00
3 to 4 ft.	5.00	45.00
4 to 5 ft.	7.00	65.00
Coralberry, chenaultii		
2 to 3 ft.	3.50	30.00
3 to 4 ft.	4.50	40.00
Deutzia Fride of Rochester		
2 to 2 ft.	3.50	30.00
3 to 4 ft.	5.00	45.00
4 to 6 ft.	7.50	70.00
Dogwood, red stem		
2 to 3 ft.	3.50	30.00
3 to 4 ft.	5.00	45.00
4 to 6 ft.	7.50	70.00
Forsythia, dwarf		
compacta nana		
18 to 24 ins.	5.00	45.00
FORSYTHIA—spectabilis,		
suspensa, viridissima		
2 to 3 ft.	3.50	30.00
3 to 4 ft.	5.00	45.00
4 to 6 ft.	7.50	70.00
Forsythia Lynwood Gold		
18 to 24 ins.	5.00	45.00
2 to 3 ft.	6.50	60.00
3 to 4 ft.	8.00	75.00
Forsythia Spring Glory		
2 to 3 ft.	4.50	40.00
3 to 4 ft.	6.00	55.00
4 to 6 ft.	8.00	75.00
Hydrangea Standard Blue		
2-yr.	5.00	45.00
Hydrangea Nikko Blue		
2-yr., No. 1	7.50	70.00
2-yr., medium	6.50	60.00
Hydrangea P. G.		
18 to 24 ins.	4.50	40.00
2 to 3 ft.	6.00	55.00
Mock Orange, coronarius		
3 to 4 ft.	5.00	45.00
4 to 6 ft.	7.50	70.00
Mock Orange, virginialis		
2 to 3 ft.	4.50	40.00
3 to 4 ft.	6.00	55.00
Pussy Willow, American		
2 to 3 ft.	4.50	40.00
3 to 4 ft.	6.50	60.00
4 to 5 ft.	8.00	75.00
Pussy Willow, French		
2 to 3 ft.	4.50	40.00
Regel Privet		
18 to 24 ins.	4.50	40.00
24 to 30 ins.	5.50	50.00
Snowball, Common		
2 to 3 ft.	6.00	55.00
Snowball, Japanese		
18 to 24 ins.	6.50	60.00
2 to 3 ft.	8.50	80.00
Spiraea—Korean and Reeves		
2 to 3 ft.	4.50	40.00
3 to 4 ft.	6.00	55.00
Spiraea vanhouttei		
2 to 3 ft.	3.50	30.00
Weigela rosea		
2 to 3 ft.	4.00	35.00
3 to 4 ft.	5.50	50.00
Winterberry (Ilex verticillata)		
18 to 24 ins.	6.50	60.00
2 to 3 ft.	7.50	70.00

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shape of a surfaced area (other than vegetative cover) depend first upon the uses it is to receive. Make such areas adequate, and do not cut them up by unnecessary circulation or into odd shapes where one is not inclined to set furniture or use it. Strange curved or angular shapes require careful design study, and if there is doubt, use shapes similar to the building lines. The materials chosen should complement the building (often with contrast) and the other materials in the landscape design. It is dangerous to have steps at the door without a landing, and all paved surfaces require some pitching from the building for drainage. In our climate we usually need shade on the south and southwest sides.

### Screens

D. Screens and barriers. All architectural and constructed items of this nature should be thought of as extensions of the house or building design. Often using similar materials, colors, etc., will make a building look much larger. Builders feel they can sell a smaller house by including such extensions of the house walls. Solid screens or open fences should be chosen for their special job. If a view is to be blocked, block it. Or if breezes are to be let in but sight kept out, use directional louvres, etc. Constructed elements can become dramatic backgrounds for specimen plants and carry out their function the year around if carefully handled. Their permanent quality and immediate effect make fences and screens popular when used carefully.

E. Contrasting ornamentation. Use, as already mentioned, and against rounded earth forms and lush planting of ground cover, perennials, etc. A panel of fence against a lush planting makes the planting look more dramatic and richer by contrast.

### Maintenance

F. Maintenance and protection. Reduce mowing and trimming by edging; use walks, drives and walls for this purpose. Lawn mowing can be reduced by organic (sawdust, etc.) and inorganic surfacing, which gives interesting patterns and color. Gravel and rock mulches are fine. Plants should be set out away from structures to allow for maintenance and to give greater feeling of space. Hedge pruning can be eliminated by use of walls and other barriers, while existing trees can be saved by either bringing grades up or down to the trees or by building walls, etc., around them. One way to keep dogs and the wandering feet of children

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### Good Sellers

Pfitzer Juniper, sheared	
18 to 24 ins.	\$1.40
24 to 30 ins.	1.60
30 to 36 ins.	2.00
3 to 4 ft.	2.50
Biota aurea nana	
12 to 18 ins.	1.00
18 to 24 ins.	1.40
24 to 30 ins.	1.50
Abelia grandiflora, sheared	
2 to 3 ft., B&B	.70
3 to 4 ft., B&B	1.00
B. R., 1/2 above price.	
Elaeagnus pungens fr.	
2 to 3 ft.	1.25
3 to 4 ft.	1.75
Ilex cornuta burfordi	
18 to 24 ins.	1.25
2 to 3 ft.	2.25

We also have a few hundred large-size, branched MAHAN pecan trees available.

6 to 8 ft.	\$3.00
8 to 10 ft.	3.50

Large pecans are very scarce this year, so better book now.

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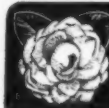
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out of certain beds is by using raised beds or edges. A wall may conceal unattractive items or become a seat.

### CANADIAN EXHIBITION

Almost 1,000,000 people attended the Canadian National Exhibition during its 2-week run, and many entered the Horticultural building, where exotic foliage, flowers and garden layouts were featured.

Sunningdale Alpine Gardens, Toronto, operated by H. J. Parfitt, won the sweepstakes prize, which was awarded to the most artistic display in the competitive class. Sheridan Nurseries, Toronto, featured a garden of modern design. Stone & Wellington, Toronto, had a formal garden featuring stonework and statuary and used plant material suitable to Canada's temperatures.

Knecht & Berchtold, Brampton, Ont., exhibited an informal garden. A rose garden highlighted by a scene of Cinderella attracted attention to the work of O'Hagan Landscape Co., Toronto. Artistic Landscape Gardeners, Toronto, showed a terrace garden with suitable plants and accessories. A 400 square foot display with a painted desert background showed hundreds of varieties of cacti. The exhibit was by Ben Veldhuis.

### DDT ON CODLING MOTH

Evidence that the codling moth, a major pest of apples in New York state, is developing resistance to DDT is reported by Cornell entomologist Edward H. Glass of the state agricultural experiment station at Geneva, N. Y. His findings are based on observations in a commercial orchard in western New York and on tests at the station.

An orchard in which codling moth had been well controlled with DDT for six years, beginning in 1946, showed considerable second-brood injury in 1952. Then, early in the 1953 season, it was found that the first brood was not being held in check with DDT sprays. Despite the fact that nine DDT cover sprays were used in this orchard in 1953, codling moth injury was much above normal for the area, where four or five DDT sprays were giving almost perfect codling moth control.

EVERGREEN NURSERY, Leonard street, Bennington, Vt., has expanded its retail business to include a garden shop. The nursery is owned and operated by Mr. and Mrs. Efford F. Stevens.

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## CALIFORNIA ASSOCIATION OF NURSERYMEN

ELMER J. MERZ, Executive Secretary

304 MITAU BUILDING

SACRAMENTO 14, CALIF.

### REDWOOD EMPIRE CHAPTER

President Carl Schmidt, Carl Schmidt Nursery, San Rafael, called the September meeting of the Redwood Empire chapter of the California Association of Nurserymen to order at the Travelers Inn, San Rafael, Calif. Mr. Schmidt was elected to office at the chapter's annual meeting and barbecue, at which there was an attendance of more than 100 persons. Other officers named at the same time were: Vice-president, Paul Clark, the Gardens, Santa Rosa; secretary-treasurer, Hugh Wallace, Birchlane Gardens, San Rafael; state director, Harold Prickett, Prickett's Nursery, Santa Rosa, and chapter directors, Laust Lund, Lund's Nursery, San Rafael; Ruth Cullen, Cullen's Nursery, Santa Rosa, and Pat Flynn, San Rafael Nursery, San Rafael.

President Schmidt opened the meeting with a tribute to the memory of Leo Ihle, who died September 2.

The secretary read the minutes of the August meeting, which were approved, and also thanked Ruth Clark, acting secretary for the past two months.

Hospitality hostess Mrs. Harold Prickett introduced Sheldon Jackson, Marin county extension officer of the University of California. Dick Fawcett, Oki Nursery, Sacramento, was also present.

Presentation of a gavel was made to President Schmidt by Mr. and Mrs. P. T. Peterson.

The secretary announced the acceptance for membership to the chapter of Wedikind's Nursery, Sonoma. The treasurer gave a financial report for the year and reported a gain of eight new members.

Don Perry reported on a recent meeting of the Marin county members at which prices of merchandise and other matters were discussed. Among prices to be put into immediate effect were the following: Gallon-can stock to range from \$1.35 to \$1.75 and a few above this price; 5-gallon stock to sell from \$3.95 to \$5.95 and up, and selected items to be individually priced. The increases also covered flats of bedding plants.

Both the secretary and Don Perry described a color TV demonstration

and announced that at least parts of all future Green Thumb TV programs would be shown in color.

At this time, President Schmidt introduced John McElroy, speaker of the evening. Mr. McElroy is program leader of special projects, agriculture extension service, University of California. He discussed "What the University of California Is Doing for Nurserymen."

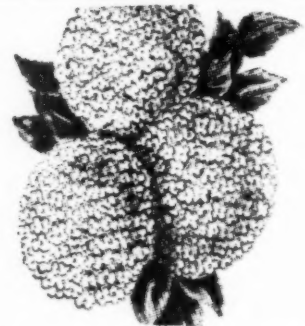
The extension service serves the public by research, publications and instruction, Mr. McElroy said. Until recent years there was little organized work being done for the nursery industry except in an indirect way. The nursery industry of Cali-

fornia produces more than that of any other state in the nation. In the seven bay area counties, the wholesale value of nursery crops exceeds \$1,000,000. Because of the importance of the industry to the state of California, the extension service entered into a new field of research and at the present time has the following projects under way: Thirty-four in propagation; 13 in cultural methods; 26 in nutrition; 66 in pathology; 39 in irrigation and soils; 30 in entomology, and several each in plant breeding, physiology and engineering. Hugh Wallace, Sec'y.

### PENINSULA CHAPTER

At the September meeting of the Peninsula chapter of the California Association of Nurserymen, held at Los Altos, Calif., the outgoing president, Walter Borchers, W. B. Clarke & Co., San Jose, presented the chapter "gong" to new President John Coulter, Coulter's Nursery, San Carlos, to close the meeting.

## Tops For Spring Fragrance VIBURNUM CARLESI



This hardy, spring-flowering shrub is interesting the year around. Pompon flowers in clusters are light pink and deliciously fragrant. Gray-green foliage turns brilliant red in fall. Bare root: 2 to 3 ft., \$1.25; 1 1/2 to 2 ft., \$1.10; 1 to 1 1/2 ft., 85c. Most plants with flower buds. Save 10% on orders for 250 or more, assorted sizes.



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**H & S Personality Roses**

Bred for American Gardens

HOWARD & SMITH, INC.

Montebello, Calif.

Installation of new officers will take place October 4 at the Villa Charrier, San Mateo.

Members and guests of the chapter learned about their state legislature from Clark L. Bradley, assemblyman from northern Santa Clara county. He told his audience the history of legislation from the time the bill was introduced until it was enacted into law. He explained the function of the legislative representatives of trade associations and complimented Elmer Merz, executive secretary of the California Association of Nurserymen, for being one of the top men in the field. Mr. Bradley said that the various committees charged with reviewing, amending and passing along the bills for vote depend greatly upon trade representatives for explanations of the technical aspects of legislative bills.

Maunsell Van Rensselaer, Saratoga Horticultural Foundation, Saratoga, led the plant discussion. Ralph Bernstein, Schmidt Nursery, Palo Alto, showed a beautiful specimen of the staghorn fern. E. Frederick Smith, "Plantsmith" of Palo Alto, showed specimens of the polka dot plant, from Madagascar, and *Pilea rotundifolia*, a compact fern-like plant from New Zealand.

Guests introduced at the meeting included Conrad Skimina and Bob Wyeth, Monrovia Nursery Co., Azusa; Don McKalson, former operator of the Fiesta Nursery, at Mountain View, and now associated with Bandini Distributing Co., San Jose. Clyde Stocking was congratulated by the chapter upon his recent election to the presidency of the American Association of Nurserymen.

C. J. B.

#### KERN COUNTY CHAPTER

At the September 11 meeting of the Kern County chapter of the California Association of Nurserymen, new officers were installed. They are: President, Joe Ono, Evergreen Nursery; vice-president, Sid Hayes, Hayes Shade Gardens; secretary, Melva Davis, Davis Nursery, and treasurer, Ruth Hahn, Eley's Gardens, all of Bakersfield. Claude Morelock, Brundage Lane Nursery, Bakersfield, was elected permanent delegate to the annual conventions of the California association.

Chapter members discussed the Meyer lemon quarantine, which will affect the valley areas. The chapter plans to have representation at a public hearing at Bakersfield to decide the boundaries of the quarantine.

The group also discussed the forth-



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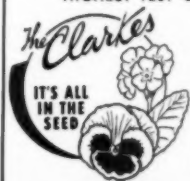
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By H. E. Gray. 78 p. (1956). \$1.50.  
American Nurseryman Chicago 4, Ill.

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#### CACTUS AND SUCCULENTS

WONDER COLLECTION: One hundred, all different.

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CANADIAN SPECIAL: More durable kinds, 20 varieties.

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SUPER SELECTION: Largest from the shipping flats.

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—WE'VE GOT 'EM—

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—NURSERY-GROWN—

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**MOST**—stately

**MOST**—symbolic of the Christmas season

	Per 10	Per 100	Approx. wt. per tree
3 to 4 ft. ....	\$15.00	\$130.00	10 lbs.
4 to 5 ft. ....	17.50	150.00	12 lbs.
5 to 6 ft. ....	20.00	170.00	16 lbs.
6 to 7 ft. ....	24.00	210.00	20 lbs.
7 to 8 ft. ....	28.00	250.00	25 lbs.

Place your order now.

Wholesale list available—trade only. (It contains complete description.)  
Cash only. Include freight or motor freight charges. No express. Inquire for  
carload rates. 25% will reserve.



**SHERWOOD NURSERY CO.**

Evergreen - PROPAGATORS AND GROWERS  
WHOLESALE

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## MILTON NURSERY CO.

79th Year

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For Fall, 1956 — Spring, 1957

Flowering, Ornamental Shade  
Trees, Evergreens and Shrubs

Fruit Tree Seedlings

Apple, Pear, Mahaleb, Mazzard  
and Myrobalan.

Specialties

Moraine Locust (Pat. No. 836)

Crimson Beauty Flowering Quince

(Our own introduction)

Combination carlots for eastern distrib-  
uting points during shipping season.

## A. MCGILL & SON

FAIRVIEW, ORE.

Wholesale only

FRUIT TREE SEEDLINGS  
FLOWERING ORNAMENTAL TREES  
SHADE TREES

Constant Vigilance Results  
in Quality Stock

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For Garden and Greenhouse

Our 1956 catalog lists the most com-  
prehensive collection of northwest-  
grown species and hybrids available.  
Hardy Cyclamen a specialty.  
Copy on request.

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LAKE GROVE, ORE.

## RHODODENDRON LINERS

We have a nice lot of named hybrid  
Rhododendron liners in 2½-in. plant  
bands. Send for list.

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## MITSCH NURSERY

Wholesale Propagators of  
Evergreen Liners

Write for latest price list.  
AURORA, ORE.

## RHODODENDRONS

We specialize in the newest, hardy  
rhododendrons available in liners and  
sizes; also the extremely hardy, newer  
azaleas. Ask for price list.

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3550 N. W. Saltzman Rd.  
PORTLAND 1, ORE.

coming annual open house, to be  
held this year October 6 to 12. Dur-  
ing the week of the open house,  
chapter members offer many special  
buys to the public.

Melva Davis, Sec'y.

## ARMSTRONG ADDITIONS

Armstrong Nurseries, Ontario,  
Calif., will construct a new \$128,000  
building at 1265 South Palmetto ave-  
nue, Ontario. The building is to  
house all the growing and shipping  
activities of the nurseries, according  
to J. Awdry Armstrong, vice-presi-  
dent and general manager of the  
firm.

The new building, designed as a  
ranch-style structure to conform to  
architectural patterns of the area,  
will be of frame and stucco and will  
have an area of 14,000 square feet.

The nurseries recently purchased  
200 acres of land near Wasco, Calif.,  
in Kern county, adding to their  
holdings. A 160-acre tract is lo-  
cated about five miles south of Wasco  
and a mile east of the Central Val-  
ley highway, and the other 40 acres  
are situated one and a half miles  
south of Wasco.

Manager of the new growing area  
is Robert Miller, who was graduated  
from the California State Polytech-  
nic College at San Luis Obispo in  
1953 with a bachelor of science de-  
gree in agricultural journalism.

A portion of the new acreage is  
being planted to roses this fall. The  
rest of the land will be used for  
growing other crops the company  
produces. The 40-acre site will serve  
as shipping headquarters and for  
the production of deciduous fruit  
trees for research.

## CALIFORNIA NOTES

The annual California garden  
show, which this year for the first  
time in its 24-year history was sched-  
uled in the fall rather than in the  
spring, was held September 12 to 28  
at Oakland.

The adult garden class of the Palo  
Alto Garden Club met recently for  
a tour of the Stocking Rose Gar-  
dens, San Jose. The hosts served re-  
freshments in the patio on the  
grounds after the tour.

Mr. and Mrs. Jack Roth are now  
sole owners and operators of the  
Alden Lane Nursery, at Alden lane  
and the San Jose-Livermore highway  
south of Livermore.

Leslie Mayne, San Mateo tree  
surgeon, has returned from a hiking  
trip in the high Sierras lasting three  
weeks.

The Los Altos Nursery, operated

by four Furuichi brothers, held its annual garden clinic at the recent San Mateo county fair and floral fiesta. In addition to having experts on plants and plantings at the booth, the nursery held demonstrations of garden supplies each day. W. B. B.

### OREGON NOTES

Appearing for the Oregon Association of Nurserymen and the Northwest Florists' Association on a recent Dean Collins' television show was Charles H. Potter, executive secretary of the two groups. The program dealt with plants for the yard.

Mrs. Lute Strauss, wife of Luke Strauss, camellia grower, Milwaukie, died recently after a long illness.

Carl Starker, florist, nurseryman and author, of Jennings Lodge, appeared daily during the Oregon state fair as a floral demonstrator at the flower show section of the fair.

On the editorial page of the Oregon Journal Sunday, September 2, appeared an editorial concerning amendments to the national housing act, passed by Congress and signed by the President, which makes it possible to use FHA loans for grading, landscaping, lawn sprinkling systems, etc. The lengthy editorial urged homeowners to take advantage of the new legislation to beautify their homes. Also it urged homeowners to contact only responsible nurserymen of proved reputation to do the work.

The Oregon Journal's Northwest Living magazine section of August 26 carried a picture of Audie Murphy, most decorated hero of World War II, beside one of the beautiful new Audie Murphy roses at the Roseway Nursery. The rose, hybridized by Dr. Walter E. Lammerts, was named in honor of the hero by Henry and Julia Hausch, owners of Roseway Nursery. The rose has long, streamlined deep crimson buds that open to brilliant currant-to-cherry red and have a spicy fragrance. The new rose will be released to the public this fall. C. H. P.

### OREGON SHORT COURSE

Dr. A. N. Roberts, associate horticulturist, Oregon State College, Corvallis, has announced plans for an annual 3-day winter short course for Oregon nurserymen, landscape gardeners, florists, bulb growers and holly growers. The short course would be under the auspices of the O. S. C. school of agriculture (resident instruction, experiment station and extension service), with the cooperation of the state department of



It's plain to see,  
You will agree,  
His sorrowful look  
Discloses.

He's not a cad,  
The lad's just sad—  
He forgot to order  
"Tops in Roses"!

If You Forgot, There Is  
Still Time If You Act Today

**WEEKS WHOLESALE ROSE GROWER**

O. L. WEEKS

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### TREE PEONIES

We are distributors for Yamato Noen's choice tree peonies.

No nursery complete without them. Send for list of names and prices.

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EVERGREEN NURSERY**

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EAST STANWOOD, WASH.

DOERFLERS have five solid acres of True Dwarf Buxus and Buxus Sempervirens, perfectly sheared to globe, pyramid and column, up to 7 ft.

DOERFLERS specialize in large shade, flowering and ornamental trees—also rare and dwarf stock, all completely root-pruned and moved regularly, therefore can be planted the year around.

One of the leaders in canned stock as well as field-grown.

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**Pioneering Seedling Growers on  
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**Specializing in Fruit Tree Seedlings  
also Shade and Flowering Trees**

French Apple Seedlings,  
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Combination carloads to eastern distributing points.

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PORTLAND 15, OREGON

### Quality Stock

CONIFERS AND BROAD-LEAVED  
EVERGREENS  
SHADE AND FLOWERING TREES  
FRUIT TREE SEEDLINGS  
FRUIT TREES  
DECIDUOUS SHRUBS  
VINES AND BULBS  
PORTLAND ROSES  
NURSERY SUPPLIES

Our new catalog is now  
ready. If you have not received  
a copy, let us know.

Nursery stock in this area is  
making a fine growth.

*Write for our Catalog*

#### CUTTING-GROWN RHODODENDRON LINERS

Hardy and semihardy varieties,  
Quality only

**VAN VEEN NURSERY**

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#### ROSES — Field Grown

Patented and Nonpatented.  
Finest in roses since 1935.

Write for new list and prices. Contracts  
and advance orders solicited.

**PACIFIC NORTHWEST ROSE NURSERY**

P. O. Box 261 GRESHAM, ORE.

#### CORRECTION

The price shown for 12 to 15 ins.  
White's Silver King Juniper in our  
September 15 ad was incorrect. The  
correct price is \$1.75 each.

**CARL WHITE'S NURSERY**

716 S. Ninth Ave.  
WALLA WALLA, WASH.

Finest Quality

**CAMELLIAS — ROSES  
RETICULATAS — HOLLY**  
(Northern California Grown Roses)

**DESCANSO DISTRIBUTORS, INC.**

Wholesale Growers  
Pipeline & Walnut Sts., CHINO, CALIF.

agriculture and the Oregon Bulb, Florist and Nursery Council, Oregon Association of Nurserymen, Oregon Landscape Gardener's Association, Oregon Flower Growers' Association, Northwest Bulb Growers' Association and Oregon Holly Growers' Association.

The proposed short course would be held each year on the Oregon State College campus, probably in January or February. There would be group sessions in addition to the general sessions. Commercial and educational exhibits would be included.

#### Subjects Covered

The short course would be guided by a central committee consisting of staff members of the department of horticulture, landscape architecture, botany and plant department and the entomology department. The course would cover production and management problems, insect and disease control problems and landscape planning, construction and maintenance.

Also proposed is a quarterly digest of research information in the horticultural specialty crops field. Letters and additional information have gone to the various groups concerned, signed by the committee on organization, consisting of Dr. A. N. Roberts and Roy Young, botany and plant department; Don Martel, landscape architecture, and Knud Swenson, entomology. To date, action seems to be favorably disposed toward the establishment of the course.

C. H. P.

#### PAST HEADS MONROVIA

Officials of Monrovia Nursery Co., Azusa, Calif., announce the election of Howard Past as president, to succeed Harry E. Rosedale, who succumbed recently. For many years Mr. Past has been adviser-consultant to the Monrovia Nursery Co. and has also been in charge of national sales.

Martin Usrey, long-time vice-president and general manager of the nursery, continues in the same capacities.

Officials state that the same principles and policies which have guided the 30-year growth of the Monrovia Nursery Co. will continue. In line with this decision, the company announces the addition of 24 acres to its growing grounds at Azusa. Because of increasing national demand for the firm's azaleas and general container-grown ornamentals, the new acreage will be devoted to growing these varieties.

## OBITUARY

### Gilbert A. Abel

Gilbert A. Abel, owner of the Diable View Gardens Nursery, Antioch, Calif., died recently. He leaves his widow, Anna, who operated the nursery with him; a son, Philip, and daughter, Mrs. Mary Lou Martin, both of Antioch.

### Charles R. Givan

Charles R. Givan, 77, who had operated the Murfreesboro Nursery, Murfreesboro, Tenn., since 1917 and had been in the nursery business in that city since 1904, died August 16 at his home. Mr. Givan had aided in planning and planting the grounds of a local college and had done landscape work in both Florida and Mississippi. Surviving are his widow, Zora; three daughters, and two sons.

EVERY H. STEINMETZ, of the Portland Wholesale Nursery Co., Portland, Ore., announces the marriage of his daughter Gretchen Ann to Ronald Herbert Amick July 29. They will be at home at 3432 North-east Pacific street, Portland.

HUGH WALLACE is to manage Birchlane Gardens, San Rafael, Calif. He has been with the nursery for 10 years. The nursery will continue under the ownership of Mrs. Leo Ihle, widow of the late newspaper publisher and nurseryman.

## ORDER FROM RICH!

Flowering Crab Apples, many varieties  
Flowering Cherries  
Flowering Plums  
Norway Maples, branched, all grades  
Red Maples, branched  
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Pin Oaks  
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And Many Other Items

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HILLSBORO, ORE.

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Collectors of Tree, Shrub and Wild Flower Seeds  
Crude Drugs and Ornamentals  
**E. C. MORAN, Stanford, Mont.**

**Don't Let Peach Growers Gamble with Nematodes!**



**ROOTSTOCK**  
... proven best in  
all types of soil!



Play safe with your customers! Insure them high production by selling the world's only patented peach rootstock—Stribling's S-37!

In sandy soil or heavy soil, S-37 thrives . . . gives positive protection against nematodes. To guarantee yourself happier, more prosperous customers, don't sell any peach, almond or nectarine variety until you see Stribling's first about S-37.

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Fine-quality, two-year plants, budded on Multiflora, in over 250 varieties. Shipping early fall and on.

Also offering 150,000 extra-heavy, uniform, 3-year roses, in both patented and nonpatented varieties (at slightly higher prices).

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## ROSES



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Wholesale only, but featuring a complete list of Hybrid Teas, Climbers and Floribundas, including all the A.A.R.S. Award Winners.

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Rose hanger in color, available on request.

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GENERAL NURSERY STOCK

## ROSES

Top-quality, field-grown patented and standard roses.

Write for list and prices.

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# CLASSIFIED ADS

Rate: 35 cents per line, each insertion.

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Instructions for the October 15 issue must be received by Friday, September 28.

Forms for November 1 issue will close Friday, October 12.

## AZALEAS

**CASH AND CARRY ONLY, NO DELIVERY.**  
OVER 80,000  
SIZES RANGING FROM 4 ins. to 8 ft.  
(Not all sizes in all varieties.)  
Lath house and field-grown.  
Quality, priced right.  
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**KURUME**  
SNOW PINK PEARL  
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TWENTY GRAND  
DELHAVEN GARDENS AND NURSERY  
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**KNAPHILL QUALITY AZALEAS**  
AT LOW TRADE PRICES  
Wide range of choice varieties of this famous strain, originated by the late Anthony Waterer. Available at low prices. Noted for wonderful colors, perfume, autumn foliage. Unnamed Knaphill Azaleas, 1 to 1½ ft. high, any flower color, on own roots. Available as low as \$106.00 per 100, plus carriage. Many awards of merit of Royal Horticultural Society. Also seed of this famous strain saved from finest plants, \$3.00 per pkt., which will produce 250 plants. Cash with order. Write for trade catalog and seed.

**KNAPHILL NURSERY**  
Woking, Surrey, England

AZALEA HINODEGIRI				
Field-grown, bushy plants				
EACH, 10 25 100				
	rate	rate	rate	
10 to 12 ins.	\$2.00	\$1.75	\$1.50	
12 to 15 ins.	2.25	2.00	1.75	
15 to 18 ins.	3.25	3.00	2.75	
18 to 21 ins.	4.50	4.00	3.50	
21 to 24 ins.	5.50	5.00	4.50	
24 to 28 ins.	8.00	7.50		
28 to 32 ins.	10.00			

Also sizes up to 5 ft.  
Cash and carry.  
**SPRINGFIELD NURSERY**  
492 Mountain Ave. Springfield, N. J.

**AZALEAS**  
October shipment.  
Red Wing, from 5-in. pots, \$75.00 per 100.  
Coral Bells, from 3-in. pots, \$25.00; 4-in. pots, \$35.00; 6-in. pots, \$100.00 per 100.  
Hinodogiri, from 6-in. pots or gal. cans, \$125.00 per 100.  
Snow, from 4-in. pots, \$35.00; 6-in. pots, \$125.00 per 100.  
Nice, well branched plants. 6-in. pot stock, 10-in. heads and better.  
Cash, please; no packing charge.  
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**AZALEA HINODEGIRI**  
Quality stock for florist and landscape work. Fall prices up to January 1, 1957.  
Each, 100 1000  
4 to 6 ins. \$9.45 \$9.40  
6 to 8 ins. .80 .70  
8 to 10 ins. 1.15 .90  
10 to 12 ins. 1.40 1.15  
12 to 15 ins. 1.75 1.50  
100 additional for burlapping.  
No packing charges if cash is received with order. Delivery at cost.  
**GULF STREAM NURSERY, INC.**  
Wachapreague, Va.

**AZALEA LINERS, DELIVERY NOW.**  
Out of 2-in. pots: Amoena coccinea, Coral Bells, Carmen, Delaware Valley White, hinodogiri, Herbert, Palestrina, Rose Bud and Snow.  
In flats, 60 to a flat: Amoena coccinea, Coral Bells and hinodogiri.  
Prices on pot-grown and flat-grown Azaleas, \$14.00 per 100, \$25.00 per 1000.  
F.O.B. Elizabeth, N. J.  
**DELAWARE VALLEY NURSERY**  
318 N. Broad St. Elizabeth, N. J.

## EXCELLENT AZALEA PLANTS

for forcing or landscape planting.  
Grown under ideal conditions in our own native mountain area.  
**CORAL BELLS, HINODEGIRI.**  
8 to 10 ins. \$1.10  
10 to 12 ins. 1.35  
12 to 15 ins. 1.75  
**LEDFOLIA ALBA AND FLAME.**  
15 to 18 ins. \$2.50  
18 to 24 ins. 3.00  
F.O.B. nursery in lots of 100 or more only.  
**BLUE RIDGE WHOLESALE NURSERY**  
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## FINE LINERS

Brand new catalog of ornamentals, Abelia to Viburnums, now ready. We are one of the oldest lining-out specialists in this country and are managed by 4th and 5th generation nurserymen. Our experience is your gain. Send for free copy today or visit us if you can.  
**JOHN VERMEULEN & SON, INC.**  
Woodfern Rd. Neshanic Station, N. J.

## DAF LINING-OUT AZALEAS AND EVERGREENS

**OUR SPECIALTY**  
Also budded stock for forcing.  
Ask for new price list.  
**DIRKMAAT AZALEA FARM**  
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## HINO-CRIMSON

Thousands of beautiful Hino-Crimson and other evergreen Azaleas. Dense, bushy, well-budded, for landscape planting and forcing. Book your order now, to be sure of getting yours, as there never are enough to meet the demand.  
**THE TANKARD NURSERIES, Exmore, Va.**

**AZALEAS**  
Choice plants, bed-grown, irrigated, compact and well shaped. The growing of fine Azaleas is our business, not a sideline. Send for our list today.  
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Rooted cuttings, transplants, budded field-grown plants and molis seedlings.  
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**FOR FALL AND SPRING DELIVERY**  
Field-grown hinodogiri, Hino-Crimson, Hexe, Coral Bells. Thousands of all sizes.  
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**AZALEAS FOR FORCING**  
AND LANDSCAPE PLANTING  
Write for list of varieties, sizes and prices.  
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## BERRY PLANTS

**RASPBERRY PLANTS**  
The new Durham Everbearing red Raspberry, also Latham (midseason), Gatineau (very early) and September Everbearing.  
Strawberry plants, 40 varieties.  
Write for wholesale price list.  
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**PIXWELL GOOSEBERRIES**  
25,000 2-yr., No. 1, mostly extra heavy, 5c to 7½c per plant. If you take them all and dig them yourself, will let go for 20.00.  
Will furnish tractor and operator free of charge for digging.  
**SCHWAB FRUIT FARM & NURSERY**  
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**LATHAM RASPBERRY PLANTS**  
Write for prices on grades you want and amount you need.  
**SPRUCE VALLEY NURSERY**  
Spruce, Mich.

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**DAFFODILS FOR NATURALIZING**  
Michigan-grown and inspected.  
Double nosed and round.  
Mixed, 1000, \$45.00; 100, \$6.00.  
Cash, please.  
**VERONA GARDENS**  
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## HOLLAND-GROWN BULBS

**DARWIN TULIPS**, first size, 11 to 12 cm., 5c each, \$4.00 per 100 of one variety:  
Jubilee (blue), Wm. Pitt (red), Pride of Haarlem (deep rose), Yellow Giant (yellow), Princess Elizabeth (rose), Wm. Copland (lavender), Queen of Night (blue-black), Bartigon (dark red), Clara Butt (pink).  
**PARROT TULIPS**, 7½c each:  
Blue Parrot (blue), Orange Favorite (orange), Sunshine (bright yellow), Red Champion (red), Black Parrot (blue-black).

**REMBRANDT TULIPS**, 7½c each:  
Cordell Hull (variegated white and red), **TULIPA FOSTERIANA**, 10c each:  
Red Emperor (large scarlet).  
**COTTAGE TULIPS**, 7½c each:  
G. W. Leak (crimson and orange), Carrara (white), Marjorie Bowen (yellow edged scarlet).

**BREEDER TULIPS**, 5c each:  
Drillburg (orange-scarlet)  
**TRIUMPH TULIPS**, 5c each:  
Kansas (white).

**CROCUS**, blooming size, 7 to 8 cm., 4c each:  
King of the Blues, King of the White.  
**MUSCARI** (Grape Hyacinth), 2c each.  
**SCILLA** (Camp, mixed), 2½c each.  
**SNOWDROPS**, 4c each:  
**GIANT YELLOW TRUMPET DAFFODILS**, 6½c each, \$6.00 per 100:  
Golden Harvest, Music Hall, King Alfred, Solario.

**DUTCH IRISES**, 8 to 9 cm., 5c each:  
Golden Harvest, White Excelior, Wedgwood.

**HYACINTHS**, bedding size, 15 to 16 cm., 10c each:  
Pink Pearl (deep rose), La Victoire (carmine-red), L'Innocence (pure white), Bismarck (sky-blue), King of the Blues (deep blue), City of Haarlem (golden yellow).

**DOMESTIC BULBS**  
**MADONNA LILY**, jumbo size, blooms Decoration day, 35c each.  
**REGAL LILIES**, 15c each.  
**BENTON COUNTY NURSERY CO.**  
Dept. 5 Rogers, Ark.

**DIRECT FROM THE GROWER**  
**QUALITY GUARANTEED**  
Our new wholesale price list for fall 1955 offers a choice assortment of imported as well as domestic-grown bulbs and plants. You will find the best in the new as well as all popular kinds of:  
**TULIPS** HARDY LILIES  
NARCISSI EREMURUS  
HYACINTHS LIATRIS  
CROCUS MERTENSIA  
MUSCARI PEONIES  
COLCHICUMS HERMOCALLIS  
DUTCH IRISES HARDY PHLOXES  
and many other desirable items for forcing and outside planting.  
Ask for your copy TODAY. It will be to your advantage.  
**A. M. GROOTENDORST**  
P. O. Box 123 Benton Harbor, Mich.

## CAMELLIAS

**CAMELLIA SASANQUA**  
**IN GALLON CONTAINERS**  
Excellent for retail sales.  
**BROADLEAF GARDENS**  
Route 13 Onley, Va.

Sell Stock Quickly and Easily with American Nurseryman Classified Ads.

## CHESTNUTS

**CHING CHOW**  
**CHINESE CHESTNUT SEED**  
Ready now.  
(Nanking—Hemming Line P.I. 70314.)  
Blight resistant.  
Less than 1 per cent weevil.  
From  
**EASTERN SHORE OF MARYLAND**  
Prices in quantity as low as 30c per lb.  
Write for price list and description.  
**DR. J. WESLEY EDEL**  
(Prospect Plantation)  
Grasonville, Md.  
Phone Queenstown, Md., 4444

**SEED CHESTNUTS**  
Castanea mollissima, fall 1956 crop, 35c per lb., F.O.B. Trappe, Md.  
**COMPTON FARM**  
c/o J. M. Arensburg, agent  
1104 1st. Natl. Bank Bldg., Pittsburgh 22, Pa.



CHINESE CHESTNUT (MOLLISSIMA)  
Good strain. Seed or eating.  
50c per lb. 5 lbs. and up.  
55-lb. hampers, 45c per lb. F.O.B.  
WHITFORD NURSERY, FARINA, ILL.

### EVERGREENS

#### EVERGREEN LINERS AND CUTTINGS POT-GROWN STOCK

Sprayed with Parathion 3 times annually.  
Potted in special clay peat fertilizer mixture.  
Grown in open lath house or outside frames.  
No light, soft greenhouse-grown stock.  
Each 100 1000

Arborvitae, American, dark green,	1-yr., 6 to 7 ins.	\$.27	\$0.25
Arborvitae, globe woodwardi, 1-yr.,	6 to 8 ins.	.27	.25
Arborvitae, pyramidalis, 1-yr.,	5 to 6 ins.	.27	.25
Juniperus pfitzeriana armstrongi,	1-yr., 4 to 5 ins.	.27	.25
Juniperus chinensis pfitzeriana,	1-yr. pots, 6 to 7 ins.	.27	.25
Juniperus chinensis pfitzeriana,	2-yr. pots, 6 to 9 ins.	.30	.25
Juniperus glauca hetzi, 1-yr.,	6 to 7 ins.	.27	.25
Taxus hicksii, 2-yr., 5 to 6 ins.	.30	.28	
Taxus andersonii, 2-yr., 6 to 9 ins.	.34	.32	
Taxus cuspidata, 2-yr., 6 to 9 ins.	.34	.32	
Taxus media compacta, spreading,	2-yr., 6 to 9 ins.	.30	.28
Eucynymus alatus compactus, 2-yr.,	6 to 7 ins.	.22	.20
Korean Boxwood, 1-yr., 3 ins.	.22	.20	
Viburnum, leather-leaved; 2-yr.	pots, 6 to 9 ins.	.30	.28
Viburnum burkwoodii, 1-yr.,	4 to 6 ins.	.22	.20

#### HEAVY ROOTED CUTTINGS

From flats, growing outside in lath house.  
Ready for delivery now.  
These extra hardy, outside-grown cuttings  
can be potted any time during summer, fall.  
No soft greenhouse-grown stock.  
Boxwood, Korean, hardy, 3 ins., \$.011 \$0.10  
Eucynymus alatus compactus.  
3 to 4 ins., 2-yr., branched .09 .08  
Juniperus glauca hetzi, 5 ins. .13 .12  
Juniperus chinensis pfitzeriana,  
6 to 7 ins. .13 .12  
Arborvitae, pyramidalis, .13 .12  
Arborvitae, globe, 4 to 6 ins. .13 .12  
Arborvitae, American, dark green,  
5 to 6 ins. .13 .12  
Taxus hicksii, 5 ins. .13 .12  
Taxus intermedia, 3 to 4 ins. .13 .12  
Taxus cuspidata, 5 ins. .13 .12  
Taxus andersonii, 4 to 5 ins. .13 .12  
Taxus media, 3 to 4 ins. .13 .12  
Taxus hatfieldi, 3 to 4 ins. .13 .12  
Taxus brownii, 3 to 4 ins. .13 .12

#### MEYER Z-52 ZOYSIA GRASS

Producers of Meyer Z-52 Zoysia.  
Superior lawn grass.  
Fresh cut from our nursery.  
\$50.00 per 1000, 2-in. plugs.  
TERMS: Packing and boxing free, 3 per cent discount for cash with order.

Our stock guaranteed 100 per cent satisfactory or return within 6 days for full refund, plus full shipping charges paid.  
250 plants of each variety at 1000 rate.  
MIAMI NURSERY CO.  
Tipp City, O.

#### LINING-OUT STOCK

POT-GROWN	Per 1000	rate
Berckmans' biota aurea nana, 1-yr.	100	\$.18
Biota bonita, upright; 1-yr.	100	.18
Hetz glauca Juniper, 1-yr.	100	.16
Pfitzer Juniper, 1-yr.	100	.16
Pfitzer Juniper, 2-yr.	100	.18
Von Ehron Juniper, 1-yr.	100	.16
Eucynymus japonicus, 1-yr.	100	.15
Ilex crenata convexa bullata, 2-yr.	100	.17
Ilex crenata rotundifolia, 2-yr.	100	.17
Ilex cornuta burfordii, 1-yr.	100	.15
Ilex cornuta burfordii, 2-yr.	100	.18
Ilex cornuta femina, 1-yr.	100	.18

FIELD-GROWN

Andorra Juniper, 1-yr., 8 to 12 ins.	.14
Biota bonita, upright; 2-yr., 8 to 12, XX	.22
Hetz Juniper, 1-yr., 6 to 10 ins.	.14
Greek Juniper, 1-yr., 8 to 12 ins.	.14
Pfitzer Juniper, 1-yr., 6 to 10 ins.	.14
Pfitzer Juniper, 2-yr., 8 to 12 ins., XX	.16
Irish Juniper, fastigiata, 1-yr.,	
8 to 12 ins.	.12
Ligustrum lucidum compactum, 1-yr.,	
10 to 14 ins.	.12
Montorensis japonicus, 1-yr., 6 to 10 ins.	.12
Nandina domestica, 2-yr., bed-grown.	.10
Eucynymus patens, 1-yr., 8 to 12 ins.	.14
Ilex burfordii, 3-yr., bed-grown, XX	.35
Pfitzer Juniper, 3-yr., field-grown, XX	.25

Terms: 2 per cent discount for cash with order. Free plants. 250 plants at the 1000 rate. Add 2c for each plant on orders of less than 250 plants. C.O.D. orders require 25 per cent deposit before delivery. 25 per cent of purchase amount will hold for later delivery. Priced F.O.B. nursery.

#### WIRE & B&B PRICES

E AND S NURSERY  
Caledonia, Miss.  
Phone EL-65342, Columbus, Miss.  
3000 LIGUSTRUM LUCIDUM  
Green, bushy, 18 to 30 ins., \$1.40 each, you dig; 30c extra B&B.  
SNOW'S NURSERY  
Phone 2-6951 Charlottesville, Va.

### EVERGREEN LINERS

Each 100	1000
BERCKMANS' BIOTA A. N.	
Field-grown, 2-yr.	\$0.40 \$0.35
HETZ GLAUCA JUNIPER	
2 1/2-in. pots, 1-yr.	.22 1/2 .18 1/2
PFITZER JUNIPER	
2 1/2-in. pots, 1-yr.	.22 1/2 .18 1/2
Field-grown, 2-yr.	.35 .30
Rooted cuttings	.13 .12
BURK JUNIPER	
2 1/2-in. pots, 1-yr.	.27 1/2 .22 1/2
ARMSTRONG PFITZER JUNIPER	
2-in. pots, 1-yr.	.22 1/2 .18 1/2
2-in. pots, 2-yr.	.26 1/2 .22 1/2
Field-grown, 3-yr.	.45 .40
BLUE PFITZER JUNIPER	
2 1/2-in. pots, 1-yr.	.25 .20
Field-grown, 2-yr.	.35 .30
Rooted cuttings	.14 .13
TERMS: Cash with order. Free packing.	
Orders for spring held for one-fourth deposit.	
300 plants of one variety at 1000 rate.	
Not less than 50 of a variety.	
VOGE NURSERY	
New Lebanon, O.	

EVERGREEN SEEDLINGS, FALL 1956

Variety	Per 100	Per 1000
Arborvitae, American, 3 to 5 ins.	\$3.00	\$29.00
Fir, Colorado Silver, 4 to 5 ins.	10.00	100.00
Fir, Colorado Douglas, 2 to 4 ins.	3.00	20.00
Fir, Colorado Douglas, 4 to 6 ins.	3.50	25.00
Cedar, Eastern Red, 4 to 8 ins.	5.00	40.00
Cedar, Platte River Red, 2 to 4 ins.	3.50	25.00
Cedar, Colorado Silver, 2 to 4 ins.	4.00	30.00
Pine, Austrian, 4 to 6 ins.	3.50	25.00
Pine, Dwarf Mugho, 2 to 4 ins.	3.50	25.00
Pine, Scotch, 4 to 8 ins.	3.50	25.00
Pine, Ponderosa, 4 to 6 ins.	3.00	20.00
Spruce, Black Hills, 4 to 6 ins.	3.50	25.00
Spruce, Engelmann, 4 to 6 ins.	3.50	25.00
Spruce, Colorado Blue, 2 to 4 ins.	3.50	25.00
Spruce Colorado Blue, 4 to 6 ins.	4.50	35.00
Spruce, Norway, 4 to 8 ins.	3.50	25.00

Postpaid, Cash, please.

C. WILSON'S NURSERY, FEMMINE, WIS.

#### STOCKY, BRANCHED LINERS

Trimmed, root-pruned and banded, from outside beds, spring 1956. 200 at 1000 rate.

600	1000
Taxus capitata, leaders,	
6 to 12 ins.	\$0.37 1/2 \$0.35
300 Taxus cusp., spreading,	
4 to 8 ins.	.30 .27 1/2
300 Taxus cusp. nana, 4 to 8 ins.	.30 .27 1/2
400 Taxus hicksii, 4 to 8 ins.	.30 .27 1/2
400 Taxus Hill's dwf. pyramidal,	
4 to 8 ins.	.30 .27 1/2
200 Taxus intermedia, spreading,	
4 to 8 ins.	.30 .27 1/2
100 Taxus Vernemedei, 4 to 8 ins.	.30 .27 1/2
7000 Taxus capitata seedlings,	
4-yr., twice transplanted;	
grown 2 years in field. Heavy,	
sheared this summer. 8 to	
12 ins.	.57 1/2 .55

RITTER'S NURSERY

Benton, Columbia County, Pa.

#### PINE, SPRUCE SEEDLINGS

AND LINERS

Scotch Pine, 2-yr., 4 to 8 ins. \$4.00 \$25.00

(Best we have ever offered.

Quantity discounts.)

Scotch Pine, 3-yr., 8 to 14 ins. 5.00 35.00

Colo. Blue Spruce, 4-yr. 8.00 50.00

Juniperus glauca hetzi, 2-yr. 25.00

6 to 12 ins. 25.00

Spreading Jap. Yew, 3-yr. 30.00

4 to 8 ins. 30.00

Write for complete list.

PAINT CREEK NURSERIES

R. D. 1 Shippenville, Pa.

#### EVERGREENS

100 1000

Scotch Pine, 2-yr., 4 to 8 ins. \$3.50 \$20.00

Scotch Pine, 3-yr., 4 to 12 ins. 7.00 35.00

Scotch Pine, 2-1/2, 5 to 9 ins. 7.00 40.00

Scotch Pine, 2-1/2, 10 to 20 ins. 12.00 65.00

Red Pine, 2-yr., 2 to 4 ins. 3.50 20.00

Red Pine, 3-yr., 6 to 14 ins. 6.00 30.00

Austrian Pine, 2-yr., 3 to 6 ins. 3.50 20.00

Austrian Pine, 3-yr., 6 to 12 ins. 6.00 30.00

Norway Spruce, 2-yr., 3 to 8 ins. 3.50 20.00

Norway Spruce, 3-yr., 6 to 14 ins. 7.50 40.00

American Arborvitae, stocky well-branched trees, 3-yr., 4 to 9 ins. 6.00 30.00

563 Church St. Indiana, Pa.

#### GRADED SEEDLINGS AND TRANSPLANTS

2-YR. SEEDLINGS

Rica Scotch Pine, 4 to 8 ins. \$5.00 \$25.00

Blue Douglas Fir, 3 to 6 ins. 5.00 25.00

Green Douglas Fir, 3 to 6 ins. 5.00 25.00

4-YR. TRANSPLANTS

Colo. Blue Spruce, 6 to 10 ins. 20.00

Mugho Pine (Tyrolean), 4 to 8 ins. 15.00

Cash with order, please. Packing free.

F.O.B. ANGOLA.

ARTHUR CASH NURSERY

Lake Shore Rd. Angola, N. Y.

#### TAXUS CAPITATA

Heavy 3-yr. seedlings, 3 to 8 ins.

\$25.00 per 100, \$175.00 per 1000.

Samples of 5 at \$1.00, postpaid.

PINE, SPRUCE, FIR.

ORNAMENTAL SEEDLINGS

Complete list on request.

SCOTCH, AUSTRIAN, WHITE PINE,

COLO. BLUE CHRISTMAS TREES

DENTON NURSERY

Route 1 Conneaut, O.

Phone Kingsville 40299

### SURPLUS STOCK SALE

Following well-sheared specimen stock available in quantity.

Capitata Yew, 4 to 6 ft.

Hicks Yew, 4 to 6 ft.

Pfitzer Juniper, 4 to 5-ft. spread

Spiny Greek Juniper, 3 to 5 ft.

American Arborvitae, 5 to 7 ft.

Hinodegiri Azalea, 18 to 30 ins.

GUINAN & SON NURSERY

5701 N. Front St.

Philadelphia 20, Pa.

### AUSTRIAN PINE

130 2 to 4 ft., \$1.50.

200 Von Ehron spreaders,

24 to 30 ins. sheared, full.

Root pruned, transplanted.

Buyer digs.

Phone Lu 7-2737

LONG'S EVERGREEN NURSERY

Hill Ave. near King Rd.

Holland, O.

### B&R EVERGREENS, CERTIFIED

Nursery-grown transplants.

Specimens, hedges, windbreaks, screenings.

Carefully dug.

Red Pine, Scotch Pine,

Norway Spruce, White Spruce.

All sizes.

Visit or write for prices and discounts.

HARVARD TREE FARM

Pleasant St. Athol, Mass.

### PIERIS JAPONICA

(Andromeda)

Per 100 Per 1000

2-yr. liners, TTT. \$40.00 \$350.00

2-yr. peat bed, 6 to 8 ins. TT. 30.00 250.00

2-yr. peat bed, 4 to 6 ins. TT. 20.00 175.00

1-yr. branched, T. 10.00 90.00

### ECKHARDT NURSERIES

16 Toppa Blvd. Newport, R. I.

### EVERGREEN LINERS

100 1000

Taxus cuspidata, 3-yr., twice

transplanted, 10 to 12 ins. \$45.00 \$400.00

Juniperus glauca hetzi, 3-yr., twice

transplanted, 12 to 15 ins. 40.00

Retinospora aurea, 3-yr., twice

transplanted, 15 to 18 ins. 35.00

All above sheared and well-rooted.

NEIDEL'S NURSERY & GREENHOUSE

Mtd. Rt. 4, Hasson Heights Oil City, Pa.

### JUNIPER GRAFTS

We have a surplus above our fall planting

needs: 600 canasteri, 800 burki, 200 keteleeri,

and possibly a few other varieties. Grafts

were made last winter and are a good buy,

in 2 1/2-in. pots, at 45c each.

T. C. CRUME NURSERY &

LANDSCAPING CO.

Highway 42 Florence, Ky.

Phone Atlantic 5-2361

### EVERGREENS, B&B

Each

300 Taxus capitata, 2 1/2 to 3 ft. \$6.50

100 Taxus hicksii, 18 to 24 ins. 3.75

250 Arborvitae, pyramidal, 3 to 4 ft. 2.75

300 Arborvitae, compact, 12 to 15 ins. 1.50

300 Ilex rotundifolia, 18 to 24 ins. 2.75

300 Juniperus glauca hetzi, 2 to 2 1/2 ft. 3.00

200 Juniperus glauca hetzi, 2 1/2 to 3 ft. 3.50

R. D. 5 W. A. SWIFT NURSERY

Greenville, Pa.

Fine, strong rooted cuttings, \$8.00 per 100,

\$75.00 per 1000. Pfitzer's Juniper, Globe Ar-



## EVERGREENS—Continued

400 NORWAY SPRUCE  
Beautifully shaped, sheared and 4 times transplanted; 3 to 5 ft., \$125.00 per 100. Red-leaved Barberry, 18 to 24 ins., \$35.00 per 100. Euonymus alatus, 18 to 24 ins., \$60.00 per 100.

Row-run. Dig them yourself.  
**HEISE'S NURSERY**  
4040 Washtenau Rd., Ann Arbor, Mich.  
Phone Ann Arbor N-O-28613

**EVERGREENS, ROOTED CUTTINGS**

	Per 100	Per 1000
Ilex burfordi	\$5.00	\$45.00
Ilex bullata	5.00	45.00
Ilex rotundifolia	5.00	45.00
Laetia fortunei	4.00	35.00
Ligustrum lucidum	4.00	35.00

Write for a complete list of rooted cuttings.  
**FLOWERWOOD NURSERY, INC.**  
P. O. Box 185, Cairo, Ga.

**FINE LINERS**  
Brand new catalog of ornamentals, Abielas to Viburnums, now ready. We are one of the oldest lining-out specialists in this country and are managed by 4th and 5th generation nurserymen. Our experience is your gain. Send for free copy today or visit us if you can.

**JOHN VERMEULEN & SON, INC.**  
Woodfern Rd., Neshaun Station, N. J.

**EVERGREENS, B&B**

	Each
400 Andorra Juniper, 18 to 24 ins.	\$2.25
200 Andorra Juniper, 2 to 3 ft.	2.50
300 Am. Arborvitae, 4 to 5 ft.	3.25
1000 Hetz glauca Juniper, 18 to 24 ins.	2.25

These are nice. Come and see them. Order early, please.

**WHERRY'S NURSERIES, St. Marys, W. Va.**

**TAXUS CAPITATA**  
Strong 2-yr. seedlings, seeds sown lightly, plants grown with plenty of room in beds.  
\$15.00 per 100, \$125.00 per 1000.

**C. HOOGENDOORN NURSERIES**  
Newport, R. I.

**PIERIS JAPONICA (ANDROMEDA)**

	Per 100	Per 1000
1-yr. T. 2 to 2 ins.	\$8.00	\$75.00
Seedlings, 1 to 2 ins.	6.00	50.00

**PLANE VIEW NURSERY**  
West Rd., Newport, R. I.

**ANDORRA JUNIPER LINERS**

	Per 100	Per 1000
Field-grown, 8 to 12, T.	\$17.00	\$165.00

We have only a few thousand to offer this fall.

**WHERRY'S NURSERIES, St. Marys, W. Va.**

**NANDINA PLANTS**  
3 to 4 ins. high, bed-grown, \$20.00 per 1000, 500 at 1000 rate, Cash.  
**KRONE'S FLOWER SHOP & NURSERY**  
4221 Grand Ave., Fort Smith, Ark.

**PIERIS JAPONICA**  
Out of 2-in. pots, \$17.50 per 100, \$150.00 per 1000. P. O. B. Elizabeth, N. J.  
**DELAWARE VALLEY NURSERY**  
948 N. Broad St., Elizabeth, N. J.

**BERCKMANS' BIOTA AUREA NANA**  
100,000 5 to 7 ins. 12c each.  
**THE BUSH RANCH**  
140 Woodland Dr., Thomasville, Ga.

## FRUIT AND NUT TREES

**PEACH TREES (Northern Ohio Grown)**

	Per 100	Per 1000
1-yr., 9/16 to 1 1/16, 4 ft. up.	\$65.00	\$600.00
1-yr., 7/16 to 9/16, 3 ft. up.	50.00	500.00
1-yr., 5/16 to 7/16, 2 ft. up.	35.00	300.00

Champion Golden Jubilee  
Cumberland Hale Haven  
Dixired Kale Haven  
Dixigem Lizzie  
Elberta Red Haven  
Fair Haven Shipper's Late Red.

**THE FRENCH NURSERY CO.**  
Clyde, O.

**CRAB APPLE AND FLOWERING PEACH LINERS ARE SCARCE ITEMS.**  
For fall delivery, we offer Flowering Crab Apple, Flowering Peach, purple-leaved Plum, Dogwood, pink and white flowering, and many others.

Fruit tree liners: Apple, Peach, Pear and Plum. Hundreds of customers are pleased with our liners, so write for prices if not on our mailing list.

**GLOBE NURSERIES**  
"Economy Headquarters"  
Box 249, McMinnville, Tenn.

**CELESTIAL FIG**  
Good strong quality, will please you. No packing charge.

	Per 100	Per 1000
15 to 18 ins.	\$0.20	\$2.00
18 to 24 ins.	.30	3.00
2 to 3 ft.	.40	4.00
3 to 4 ft.	.50	5.00
4 to 5 ft.	.60	6.00

**MCKEE'S NURSERY**  
P. O. Box 749, Covington, La.

**Surplus Stock**  
can be easily and quickly turned into Cash  
by listing it in the  
**American Nurseryman Classified Ads.**

## GARDEN ROOTS

### RHUBARB SPECIAL

Shipment fall, 1956.  
MacDonald Red  
No. 1 divisions, \$20.00 per 100.  
Packing free, cash with order.  
Digging now.

**HANSON'S EVERGREEN NURSERIES**  
Box 582, Anoka, Minn.

## GERBERAS

**DOUBLE GERBERAS**  
Domoto's Award of Merit Strain, double.  
First wholesale offering

	Per 100	Per 1000
Large divisions	\$50.00	\$450.00
250 at 1000 rate. No C.O.D. F.O.B. Hayward.		

**TOICHI DOMOTO NURSERY**  
26591 Western Rd., Hayward, Calif.

## GROUND COVERS

### GROUND COVERS

FALL 1956, SPRING 1957 DELIVERY.  
QUALITY AND QUANTITY FOR LARGE  
LANDSCAPE JOBS AND GARDEN SHOP  
SALES.

**EUONYMUS fortunei (ACTUS)**

	Per 100	Per 1000
1-yr. pots	\$12.50	\$110.00
2-yr. pots	15.00	140.00

**EUONYMUS fortunei COLORATUS**

	Per 100	Per 1000
1-yr. pots	12.50	110.00
2-yr. pots	15.00	140.00

**AJUGA REPTANS RUBRA**

	Per 100	Per 1000
1-yr. pots	15.00	125.00

(300 at the 1000 RATE.)

**CUNNINGHAM GARDENS, INC.**  
Waldron, Ind.

**WE HAVE A SURPLUS**  
of several thousand  
**EUONYMUS RADICANS COLORATUS.**  
2-yr. transpl. for the special LOW PRICE  
of \$15.00 per 100. They are the 30c grade  
with excellent roots and runners. Order  
SOON to save money on this special offering.  
We also have about 10,000 MYRTLE  
(Vince minor) for this fall. Our usual high  
quality. \$60.00 per 1000. ORDER EARLY.  
ALL F.O.B.

**MOHLE MEADOWLAND NURSERY**  
Great Meadows, N. J.

**GROUND COVERS**

	Per 100	Per 1000
VINCA MINOR		
1 to 3 leads	\$7.50	\$75.00
3 to 5 leads	10.00	100.00
Made up clumps, 5 to 10 leads	35.00	350.00
Made up clumps, 10 to 20 leads	50.00	500.00

**LONICERA HALLIANA (Hall's Honeysuckle)**  
Made up clumps, 2 to 5 leads 20.00  
Made up clumps, 5 to 8 leads 30.00

**O. H. PERRY NURSERY CO.**  
Box 545, McMinnville, Tenn.

**VINCA MINOR (HARDY MYRTLE)**

	Per 100	Per 1000
Division liners	\$1.00	\$8.00
Medium crowns	3.50	35.00
Heavy crowns	5.00	45.00
Clumps, 10 to 20 leads	5.00	45.00
Clumps, 20 to 30 leads	7.50	60.00

Shipment any time. Write for catalog.  
**LOWELL H. MCGEE NURSERIES**  
P. O. Box 341, McMinnville, Tenn.  
Phone 3351

**PACHYSANDRA TERMINALIS**  
Strong 1-yr. field-grown, \$65.00 per 1000.  
**HILLCREST GREENHOUSES, Franklin, Pa.**

# For \$3.50

you can offer that surplus in a classified ad of 10 lines on these pages—quickly and easily turning stock into cash.

## AT 35c PER LINE

you can keep a list of specialty items before trade buyers through the selling season at small cost.

Send your copy (count 6 average words to line) for the October 15 issue to reach us by September 28.

Forms for November 1 issue will close Friday, October 12.

# AMERICAN NURSERYMAN

343 S. Dearborn St. CHICAGO 4, ILL.

## AMERICAN NURSERYMAN

### HARDY MYRTLE

(Vince minor, Periwinkle)  
Fresh dug, hand-clumped, 20 to 25 canes,  
\$50.00 per 1000.  
Sphagnum packed in ventilated cartons.  
**HONEYUCKLE (japonica halliana)**  
\$45.00 per 1000.  
**EUONYMUS, vegetus and coloratus**  
Strong rooted, \$60.00 per 1000.  
**H. C. WAUGH**

R. R. 1, Gallipolis, O.

**ATTENTION, LANDSCAPERS!**  
**AN EXCELLENT GROUND COVER**  
Euonymus f. coloratus 100 1000  
2-yr., field-grown \$25.00 \$225.00  
Terms: Cash with order, 2 per cent discount  
and free packing. All others, 30 days net  
with suitable reference. 300 at 1000 rate.

**MENTOR ROSE GROWERS, INC.**  
Little Mt. Rd., Mentor, O.

Hardy Myrtle (Vince minor), plants with  
20 leads or more and good roots, \$6.00 per  
100, \$45.00 per 1000. Cash. Samuel I. Minder,  
305 Euclid Ave., Lancaster, Pa.

## HARDWOOD CUTTINGS

**HARDWOOD CUTTINGS**  
Unrooted, from our own blocks and plant-  
ings. Hand-trimmed, ready for bed planting.  
Guaranteed true to name.

	Per 1000
Andorra Juniper	\$15.00
Hetz Blue Juniper	15.00
Hill's Dundee Juniper	15.00
Canert Juniper	15.00
Glaucia Juniper	15.00
Hillspire Juniper	15.00
Keteeler Juniper	15.00
Meyer Juniper	20.00
Irish Juniper, fastigata	15.00
Pfitzer Juniper	15.00
Savin Juniper	15.00
Spiny Greek Juniper	15.00
Dark green Arborvitae, nigra	15.00
Globe Arborvitae	15.00
Pyramidal Arborvitae	15.00
Retinispora plumosa pisifera	15.00
Siberian Arborvitae, warana	15.00
Upright Yew, Taxus capitata, tips	15.00
Spreading Yew, Taxus cuspidata	15.00

Delivery at any time, 500 at 1000 rate.  
Packed free. Cash with order, please.

**BOB NEPRASH NURSERIES**  
Rt. 2, Cedar Rapids, Ia.

## HARDY PLANTS

**SNYDER'S PERENNIAL SPECIALTIES**  
Strong, blooming-size plants from open  
field beds, started early this spring unless  
otherwise described. 25 at the 100 rate.  
Priced per 100; 25 at the 100 rate.

**AQUILEGIAS (Columbine)**

	Per 100	Per 1000
Blue shades	\$4.00	\$40.00
Crimson Star, red, white center, 2-yr.	8.00	80.00
McKana Hybrids, all colors, 2-yr.	8.00	80.00
Mrs. Nicholson, blue, white center, 2-yr.	8.00	80.00
Orange and Scarlet, lighter centers	4.00	40.00
Rocky Mountain Blue, white centers	4.00	40.00
Rose Queen, pink shades, white centers	4.00	40.00
Scott Elliott Hybrids, all colors	4.00	40.00

**ACHILLEA filipendulina, yellow** \$4.00  
**Alyssum saxatile, golden yellow** 4.00  
**Anemone pulsatilla, lilac, heavy plants** 5.00  
**Arabis alpina Snowcap** 4.00  
**Aster alpinus, dwarf blue, spring** 5.00

**CAMPANULAS**  
Carpatia alba, white, strong plants \$4.00  
Carpatia Blue, true stock, heavy 4.00  
Carpatia Dwf. Hyb., low, compact 4.00  
Rotundifolia (Bluebells of Scotland) 5.00

**CARNATION GRENADIN**  
Finest seed, practically all double.  
Thinly sown, bushy plants, colors both \$4.00  
Golden Sun Scarlet  
Rose Queen White  
Dark Red Mixed

**DELPHINIUMS**  
Belladonna Improved, light blue \$3.00  
Belladonna Improved, dark blue 3.00  
Chinense alba, white, about 30 ins. tall 3.00  
Chinense Blue Butterfly, dwarf, 2-yr. 5.00  
Sapphire, larger flowers, light blue 5.00  
Wrexham Hyb., tall, stately spires 6.00

**DIANTHUS**  
Thinly sown, bushy plants.  
Allwoodi, rich colors, Very free \$4.00  
Deltoides erecta, dwarf, all red 4.00  
Little Jock Hyb., dwarf, compact 4.00  
Plumarius Highland Hyb., single, mixed 4.00  
Plumarius Spring Beauty, July-sown 4.00

**EUONYMUS VEGETUS**  
(Evergreen Bittersweet)  
Trouble-free and permanent. Clean, heavily  
rooted, easy to transplant.  
Thick stemmed, from field rows.  
8 to 10 ins. 27c each  
Heavy plants, 2 yrs. in field rows 18c each  
Bushy transplants, 2 yrs. in open  
beds 12c each  
Rooted cuttings, heavy, 1 yr. in  
open beds 8c each

Dictamnus fraxinella, pink, 1-yr. \$7.00  
Dictamnus albus, white, 1-yr. 7.00  
(Continued in next column)

(Continued from previous column)

Digitalis Excelesior (Foxglove), mix.	4.00
Euphorbia corollata, white filler	4.00
Gum Lady Stratheden, double yellow	4.00
Gum Mrs. Bradshaw, double red	4.00

## GAILLARDIAS

Aurea pura, yellow, 4 to 5-in. flowers	\$4.00
Burgundy, wine-red, 70 per cent true	4.00
Goblin, dwarf, red and yellow	4.00
Monarch Strain, all colors	4.00

## CYPRESSUS (Baby's Breath)

Double Snow White, mostly double	\$4.00
Pacific, airy, pink-tinted flowers	5.00
Repens rosea, pink trailer, dwarf	4.00

## IBERIS (hardy Evergreen Candytuft)

All will bloom well next spring	
Sempervirens, heavy, well branched	\$4.00
Purity, large, dazzling white flowers	
dwarfer, more compact and lighter	
green than Snowflake	

July-transplanted in open beds	7.00
1-yr. transplants from field beds	10.00
1-yr. transplants from field rows	12.00

Snowflake, flower same as Purity	
larger plant, foliage larger and	
deeper green	

July-transplanted in open beds	7.00
1-yr. transplants from open field beds	12.00

Hellanthemum mutabile (Rock Rose),	
evergreen foliage, pink blooms	\$5.00
Inula Golden Beauty, 18 ins., yellow	5.00

Lavandula Munstead's Dwarf, more	
compact, earlier, brighter flowers	5.00
Linum collinum, blue, dwarf	5.00
Linum flavum comp., yellow, dwarf	4.00

Lychnis chalcedonica, bright red	4.00
Lythrum roseum, pink shades	4.00
Nepeta mussini, dwarf, lav.-blue	4.00
Oenothera missouriensis, dwarf yellow	5.00

## LIATRIS

All "bulbs" will bloom well next season	
Pycnostachya, tall purple spikes	\$5.00
Scariosa August Glory, largest blooms,	
most striking buds	5.00

Scariosa Septimber Glory, early color	5.00
or, red-tipped buds	
Scariosa alba, white, September flw.	4.00
Spicata, dwarf, July blooming	4.00

## PHLOX SUBULATA

Bushy plants from beds started last summer	
Admiration, bright pink	\$8.00
Alexander's Pink, rose, crimson eye	8.00
Atropurpurea, carmine-red	8.00
Crimson, a lighter red	8.00

Alexander's Surprise, salmon-rose,	
large flowers, upright style	8.00
Alexander's White Cushion, beautiful	
white, neat mounds	8.00
Alexander's White Delight, best of all	
whites, large flowers	10.00

Double Blue, large flowers, 2-yr.	\$6.00
Double Pink Hybrids, 2-yr., mostly dbl.	6.00
Double White, large, pure white, 1-yr.	6.00
Shell Pink, single, deeper veins, 2-yr.	6.00
Maribel, dwarf, single, 2-yr.	6.00
Double Blue, Double Pink Hyb., Shell	
Pink and maribel, 1-yr. stock	4.00

POLYANTHUS (Primula veris hybrids)	
Stocky plants, April-sown	
Choice Mix, all colors, giant flowers	\$5.00
Giant Bouquet, mixed, top rating strain	5.00
Giant Crimson, yellow, and orange centers	5.00
Giant White, large, vigorous grower	5.00
Giant Yellow, rich, deeper toned centers	5.00

POLYGONUM REYNOUTRIA	
(Dwarf Lace Plant)	
1-year bed-grown plants	\$8.00

PYRETHRUMS (Painted Daisies)	
Stocky plants from finest seeds	
Choice Double	\$5.00
Robinson's Giant Hyb., large, single	5.00
Robinson's Dark Crimson, red, single	5.00

## SHASTA DAISIES

Alaska, large flowers	\$4.00
Giant Double, reselected. Practically	
100 per cent double apricot	7.00
The Prince, 5-in. flowers, long stems	5.00

## ROSE CAMPION

(Agrostemma coronaria atrosanguinea)	
Deep red flowers, silvery foliage, 2 ft.	\$4.00
Rudbeckia purpurea (Purple Cone-	
flower)	\$4.00
Salvia jurisici, dwarf, lav.-blue	5.00
Salvia pratensis, rich blue, 2 ft.	4.00
Saponaria ocyroides spl., pink trailer	4.00
Scabiosa House's Hyb., heavy plants	7.00
Sedum spectabile Brilliant, Rich ama-	
ranth-red, 2-yr. plants	8.00

Plants from rows started this spring	
All will make clumps next season	5.00
Sidalcea hybrids, pink and red shades	4.00
Silene schafra, pink, neat dwarf, 6-in.	5.00
Statice latifolia, mixed lavender-blue	5.00
Trollius ledebouri Golden Queen, yellow	7.00

## VIOLAS

Thinly sown, August 1956	
Arkwright Ruby, ruby red, deeper ctr.	\$3.00
Blue Perfection, clear medium blue	3.00
Chantrelle, true apricot	3.00
Georgia Peach, peach-pink, large	
blooms daintily ruffled along the	
edges	3.00
Large Flowering Scotch, all colors	
all with two tone effects, no blotches	3.00
White Perfection, large, pure white	3.00
Cash with order, please	

E. J. SNYDER, WEST MILTON, O.

Pansies, perennials and rock plants in wide	
variety. Send for catalog	
PITZONKA'S PANSY FARM & NURSERY	
Bristol, Pa.	

## HARDY, NORTHERN FIELD-GROWN

## PERENNIALS AND BIENNIALS

Offering for fall and spring planting.

Achillea	10	100
Agrostemma Tears, Pearl,		
Perry's White and rosea	\$1.25	7.00
Agrostemma cor., blood-red	1.25	7.00
Alyssum saxatile	1.25	7.00
Anchusa dropsatilla	1.25	7.00
Anemone pulsatilla	1.40	9.00

Aquilegia		
Benary's color choice	2.50	12.00
Crimson Star, long spurred	1.40	9.00
Rose, long spurred	1.40	9.00
White, long spurred	1.40	9.00
Yellow, long spurred	1.40	9.00
McKana's Giant Hybrids	2.50	12.00
Mrs. Scott Elliott's mixed, long		
spurred	1.40	9.00
Rocky Mountain Blue, long		
spurred	1.40	9.00

Campanulas		
Carpatica, blue	1.40	9.00
Carpatica, white	1.40	9.00
Persicifolia alba	2.50	12.00
Persicifolia Giant Blue	2.50	12.00

Canterbury Bells		
Double, blue, pink, white	1.25	7.00
Medium, single blue, rose,		
white or mauve	1.25	7.00
Cup-and-Saucer, blue, pink,		
white or mixed	1.25	7.00
Carnation Grenadin		
Dark red, rose, scarlet,		
white, yellow or mixed	1.25	7.00
Ceraunus tomentosum	1.25	7.00
Centaurea Montana, blue	1.25	7.00
Chelone barbata hybrids	1.25	7.00

CHRYSAETHUMS, FIELD CLUMPS		
TALLER VARIETIES		
Algonquin, double clear yellow,		
early to bloom	\$2.50	12.00
Barbara Small, clear lilac-pink		
with carmine center	2.50	12.00
Black Velvet, double, maroon	2.50	12.00
Brilliance, bright red,		
orange center	2.50	12.00
Chris Columbus, ivory	2.50	12.00
Clara Curtis, single, early pink	2.50	12.00
Dahliaum, red quilled flowers	2.50	12.00
Dean Ladd, yellow with deep		
orange markings	2.50	12.00
Defiance, golden yellow	2.50	12.00
Duluth, early lemon-yellow	2.50	12.00
Mrs. P. S. du Pont, soft		
peach with mauve undertone	2.50	12.00
Early Purple, larger yellow cen-		
ter than Purple Star	2.50	12.00
Ember, double, red with a trace		
of orange, late	2.50	12.00
Glacier, dwarf, early pure white	2.50	12.00
Glowing Coals, cherry-red		
with orange reverse	2.50	12.00
Harrison, early, bronze	2.50	12.00
Heastings, rust-red, early	2.50	12.00
Heatherbloom, heather-pink	2.50	12.00
Huntsman, bright scarlet,		
orange overlaid bronze	2.50	12.00
J. Costello, yellow to bronze	2.50	12.00
Jeffrey, full double flowers of		
deep positive pink with dazling,		
drifting sheen	2.50	12.00
Lavender Lady, early strain		
light lavender in color	2.50	12.00
Olive Longland, apricot toned		
salmon-pink	2.50	12.00
Orchid Helen, sturdy, orchid-pink	2.50	12.00
Polar Ice, double, fine white	2.50	12.00
Prelude, flesh-pink and maize-		
apricot, early	2.50	12.00
Red Gold, combination of red,		
green orange, early	2.50	12.00
Red Velvet, double variety crimson	2.50	12.00
Ruby Pompon, ruby-crimson, erect	2.50	12.00
Salute, deep purple	2.50	12.00
Sept. Dawn, rose-pink	2.50	12.00
Successor, early two-toned orchid	2.50	12.00
Sun Red, single, early	2.50	12.00
Tasiva, cream-white	2.50	12.00
Violet, best early purple, double	2.50	12.00
White Tower, tall white ball,		
pompon	2.50	12.00
77, lacinated petals, sulphur-		
yellow, early	2.50	12.00
107, old-rose	2.50	12.00

CHRYSAETHUMS		
LOW GROWING FIELD CLUMPS		
Apricot Cushion, light		
apricot, showy	2.50	12.00
Coral Sea, salmon, suffused with		
coppery rose, very hardy	2.50	12.00
Champion Cushion, deep bronze-		
red, strong growth	2.50	12.00
Dean Kay, clear pink, does not		
fade, early	2.50	12.00
Dr. Longley, double, bright		
rose-pink	2.50	12.00
Dwarf Jewell, soft lavender		
pompon	2.50	12.00
Early Gold, bright golden		
yellow pompon with dark foliage	2.50	12.00
Golden Carpet, creeping mound		
of golden yellow pompons	2.50	12.00
Harmony, dwarf, cushion-like		
habit, bronze	2.50	12.00
Lavender Lassie, very good		
lavender cushion, pompon	2.50	12.00
Little Eskimo, compact double		
white	2.50	12.00
Moonlight, light primrose	2.50	12.00
Nanook, compact, dwarf, white,		
cream centers	2.50	12.00
Major Cushion, bright salmon-		
pink colors	2.50	12.00

(Continued in next column)

(Continued from previous column)

Orchid Jewel, orchid-pink flowers	2.50	12.00
Powder Puff, very dwarf, cream-		
white	2.50	12.00
Pygmy Gold, pure golden yellow,		
early	2.50	12.00
Red Cushion, double red, early	2.50	12.00
Reds, autumn shades	2.50	12.00
Robert Brydon, deep maroon	2.50	12.00
September Cheer, cherry-red	2.50	12.00
September Bronze	2.50	12.00
September Gold	2.50	12.00
Sonja, purple cushion	2.50	12.00
White Cushion, white with trace		
of pink	2.50	12.00
Yellow Cushion, the most hardy	2.50	12.00
Coreopsis Mayfield Giants	1.20	7.00
Delphiniums		
Belladonna, light blue	1.20	7.00
Bellamoss, dark blue	1.20	7.00

Hybrids:		
Blackmore & Langdon	1.40	9.00
Gold Medal	1.40	9.00

Pacific Hybrids:		
Astolat, strawberry-pink	1.40	9.00
Black Knight	1.40	9.00
Blue Bird, medium blue, white		
bee	1.40	9.00
Blue Jay, med. blue, white bee	1.40	9.00
Camellard, lavender, white bee	1.40	9.00
Galahad, white, white bee	1.40	9.00
Guinevere, pinkish lavender,		
white bee	1.40	9.00
King Arthur, dark violet,		
white bee	1.40	9.00
Lancelot, clear lilac, white bee	1.40	9.00
Summer Skies, white bee	1.40	9.00
Pacific Round Table, a mix-		
ture of all kinds	1.20	7.00

Dianthus:		
Deltoides	1.20	7.00
Plumarius, double mixed	1.20	7.00
Dicentra spectabilis	3.50	30.00
Digitalis Shirley, giant mixed	1.20	7.00
Goblin, dwarf yellow	1.20	7.00
Burgundy	1.20	7.00
Portola Hybrids	1.20	7.00

Gypsophila		
Paniculata	1.20	7.00
Paniculata Snowflake	1.20	7.00
Repens, white or pink	1.20	7.00
Hibiscus, mixed Mallow Marvel	1.40	9.00
Hollyhock, double white, pink,		
yellow or dark purple	1.20	7.00
Iberis sempervirens	1.40	9.00
Incarvillea delavayi	1.40	9.00
Lathyrus, red, White Pearl,		
Pink Beauty or mixed	1.20	7.00
Lavandula Vera	1.40	9.00
Liatria pycnostachya	1.20	7.00
Linum, blue	1.20	7.00
Lupinus polypharbus, blue		
King, purple-blue, carmine		
rose, salmon, white or yellow	1.20	7.00
Russell's Hybrids	1.20	7.00
Myosotis palustris, blue	1.20	7.00
Penstemon (Chelone)		
Barbatus hybrids	1.20	7.00
Grandiflora, lavender	1.20	7.00

Phloxes		
Subulata atropurpurea, wine	1.40	9.00
Subulata, blue, creeping, pink		
fairy, lilac or white	1.40	9.00

TALL PHLOXES		
B. Comte, rich satiny		
amaranth flowers	2.50	
Brilliant, fiery scarlet, deeper		
eye	2.50	
Flash, bright carmine-crimson	2.50	
E. Harrington, soft pink,		
lighter eye	2.50	
Rosa superba, soft pink,		
deeper eye	2.50	
San Antonio, red	2.50	
Starlight, purplish violet with		
white star	2.50	
Platyodon, blue	1.20	7.00
Popples, Oriental, scarlet	1.20	7.00

Pyrethrums		
James Kelway, red, deep yellow		
center	1.20	7.00
Robinson hybrids, mixed	1.40	9.00
Poppies, Iceland (red, white and		
yellow)	1.20	7.00

Pyrethrums		
Robinson hybrids, carmine	1.20	7.00
Robinson hybrids, large rosy		
pink	1.20	7.00
Rosea, rosy pink	1.20	7.00
Scabiosa caucasica, good blue,		
lilac or white	1.20	7.00
Shasta Daisy Alaska	1.20	7.00
Sweet Williams		
Pink Beauty, Dunnett's crim-		
son, Newport Pink, Nige-		
Scarlet Beauty, white or		
dwarf-double mixed	1.20	7.00
Johnson Diadem	1.20	7.00

Thymes		
Citridorus	1.40	9.00
Serpillum, lilac	1.40	9.00
Serpillum coccineum	1.40	9.00

Veronicas		
Rupestris	1.20	7.00
Spicata	1.20	7.00

## HARDY PLANTS—Continued

HARDY PLANTS	
2-yr.-old plants suitable for immediate resale or landscape work.	
<i>Anemone myosotidiflora</i> .....	\$15.00 per 100
<i>Arabis Snowcap</i> .....	10.00 per 100
<i>Armeria Glory of Holland</i> .....	10.00 per 100
<i>Campanula carpatia</i> .....	10.00 per 100
<i>Delphinium Belladonna</i> .....	10.00 per 100
<i>Delphinium Lamartine</i> .....	10.00 per 100
<i>Delphinium Blackmore &amp; Langdon</i> .....	10.00 per 100
<i>Delphinium Wrexham Strain</i> .....	10.00 per 100
<i>Gypsophila pacifica</i> , pink.....	10.00 per 100
<i>Helleborus</i> (Sun Rose).....	10.00 per 100
<i>Iberis gibraltarica</i> .....	10.00 per 100
<i>Lavandula vera</i> .....	12.00 per 100
<i>Lathyrus</i> (Sweet Pea), red.....	10.00 per 100
<i>Lathyrus</i> (Sweet Pea), pink.....	10.00 per 100
<i>Lathyrus</i> (Sweet Pea), white.....	10.00 per 100
<i>Polyodonas</i> , dark blue.....	10.00 per 100
<i>Polyodonas</i> , white.....	10.00 per 100
<i>Sedum spectabile</i> brilliantia-simum.....	12.00 per 100
<i>Teucrium</i> (chamaedrys).....	10.00 per 100
Terms: Cash with order, less 15 per cent for 1000 plants of one variety.	

WALTERS GARDENS

Route 2, Zeeland, Mich.

## OUTDOOR-GROWN PERENNIALS

Per 100 Per 1000	
<i>Lupine Russell Hybrids</i> , mixed.....	\$3.00 \$25.00
<i>Iberis sempervirens</i> , white.....	2.50 25.00
<i>Alyssum saxatile</i> .....	2.50 20.00
<i>Carnation Grenadin</i> , scarlet.....	2.50 20.00
<i>Shasta Daisy May Queen</i> , first to bloom.....	2.50 20.00
<i>Veronica spicata</i> , blue.....	2.50 20.00
<i>Hollyhock Chater's double</i> , mixed.....	3.00 25.00
<i>Foxglove Shirley Hyb.</i> , mixed.....	2.50 20.00
<i>Cheiranthus</i> , orange Wallflower.....	2.50 20.00
<i>Gypsophila paniculata</i> , white.....	2.50 20.00
<i>Peverfew</i> , double white.....	2.25 18.00
<i>Canterbury Bells</i> (Cup-and-Saucer), white, rose, blue.....	2.50 22.00
<i>Sweet Williams</i> , tall, mixed.....	5.00
<i>English Daisies</i> , giant red, white or pink.....	5.00
<i>Forget-me-nots</i> , dwarf pink, white, blue.....	5.00

Cash or C.O.D.

## DUTCH GROWERS

P. O. Box 408 Kalamazoo, Mich.

## HARDY FIELD-GROWN PERENNIALS

Aquilegias, separate colors: Arabis, Artemisia, Aubrietia, Campanulas, Carnations, Chives, Delphinium Pacific Hybrids, 10 separate colors; Dianthus, Dicentra, Digitalis, Doronicum, Gaillardia, English Lavender, Liatris, Russell Lupines, Myosotis, Phlox subulata, 15 varieties; Primrose, Pyrethrum (Daisies), Shasta Daisy Esther Reed, Sedums, 10 varieties; Sweet Williams, Thymes, Trollius, Violets and Violets.

If you haven't received our list, send for it now. 100 more good varieties.

All plants freshly dug for each order.

Orders taken now for fall delivery.

Shipping now.

GEORGE FRANK & SON

Pendfield, N. Y.

## HARDY PERENNIALS

After 15 years of furnishing field-grown perennials to our area, we are discontinuing this phase of our operation. We will close out our perennial block during the fall of 1956 and spring 1957.

We have excellent selections of good Hemerocallis, Peonies, Irises, Hostas and many other groups. List forwarded on request.

## NEW AUGUSTA NURSERY, INC.

New Augusta, Ind.

**DELPHINIUMS**  
Strong, transplanted, field-grown in clay loam. Free from crown rot.

*Cliveden Beauty*, 2-yr., heavy..... \$15.00 || *Pacific Hybrids*, mixed..... | 20.00 |
2-yr., heavy.....	175.00
1-yr., heavy.....	12.50
25 at 100 rate; 200 at 1000 rate.	100.00

LOUIS COLABECCHIO NURSERY

1487 North Ridge Rd., Painesville, O.

## BLEEDING HEARTS

*Dicentra spectabilis*, 3 to 5-eye..... \$25.00 || *Dicentra spectabilis*, 5 to 8-eye..... | 35.00 |

Also Peonies and Day Lilies.

Since 1915

## ROBINSON GARDENS

Scotts, Mich.

## HELLEBORUS NIGER

(Christmas Rose)

Our own grown

3-yr. transplants

\$50.00 per 100.

\$450.00 per 1000.

C. HOOGENDOORN

Turner Rd., Newport, R. I.

## BLEEDING HEARTS

3 to 5-eye..... \$30.00 per 100 || 5 to 8-eye..... | 40.00 per 100 |

FINNERTY'S NURSERY, Rensselaer, N. Y.

## WELLER'S BETTER PERENNIALS

WELLER NURSERIES CO., Holland, Mich.  
Write for trade list.

## HARDY FERNS (DORMANT ROOTS)

\$10.00 per 100, \$75.00 per 1000.

Ostrich, Clayton, Lady, Sensitive and Maidenhair. Descriptive circular on request.

## STRAND NURSERY CO.

Taylor's Falls, Minn.

## America's best source

for Hardy Plants is

## THE WAYSIDE GARDENS

Mentor, Ohio

Write for Trade List.

## HEMEROCALLIS

## HEMEROCALLIS BARGAIN PRICES

August Pioneer, Dawn, Hankow, Sunny West, J. A. Crawford, Ophir, \$1.25 per 10, \$10.00 per 100, Aladdin, Bagdad, Chengtu, Dr. Regel, Mikado, Rajah, Serenade, Theron, \$1.50 per 10, \$12.00 per 100, Caballero, Black Falcon, Royal Ruby, Persian Princess, \$3.50 per 10, \$30.00 per 100, 5 at 10 rate; 25 at 100.

HURLEY NURSERY, PAINESVILLE, O.

## HOLLY

## FINE LINERS

Brand new catalog of ornamentals, Abellias to Viburnums, now ready. We are one of the oldest lining-out specialists in this country and are managed by 4th and 5th generation nurserymen. Our experience is your gain. Send for free copy today or visit us if you can.

JOHN VERMEULEN & SON, INC.  
Woodfern Rd., Neshanic Station, N. J.

## ILEX ROTUNDIFOLIA

Per 100 \$12.50

2 1/2-in. pots..... 15.00 |

3-in. pots..... 15.00 |

2 1/4-in. pots..... 10.00 |

WELCH BROS. NURSERY, INC.

Wilmer, Ala.

## ILEX OPACA

Clark, Manig, Mae, Parage, Osa, Arden, 2 1/4-in. pots, 4 to 6 ins., \$45.00 per 100.

Hookstraw (old heavy berry), 2 1/4-in. pots, 4 to 6 ins., \$65.00 per 100.

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218 Fairview Ave., Paramus, N. J.

## ENGLISH HOLLY REDDERLY

2 and 3-yr.-old, 300, in lots of 100.

CRANGMYA FARMS

Long Beach, Wash.

## HONEYSUCKLES

## HONEYSUCKLES

*Lonicera japonica halliana*, extra-heavy No. 1, 3 and 4-yr., 18 to 24-in. field plants, 2, 4 to 6 leads \$40.00 per 1000, lighter grade, \$30.00 per 1000; sample 100, \$4.00. Experienced labor for grading and packing quantity orders. Immediate shipment. No order too large. Phone: 500W5.

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## ENGLISH IVY (HEDERA HELIX)

Our super quality, large-leaved strain. Approved landscape architects' standards. Grown in the sub-zero snow belt. Ready for immediate shipment.

Strong 1-yr. rooted cuttings, \$45.00 per 1000. Free packing. Cash with order.

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Route 3, Jamestown, N. Y.

## BAL TIC IVY

Hardest ivy. Fine for wall or ground cover. True stock. Well-rooted plants. Delivery now or later. 25 per cent down to reserve.

2-in. pots, \$12.00 per 100, \$110.00 per 1000.

STRAITFORD GARDENS

Russell Breece, Mid. Rt., Delaware, O.

## BAL TIC IVY (VERY HARDY)

STRONG, WELL-ROOTED 2 1/4-IN. PLANTS. \$100.00 per 1000.

IMMEDIATE DELIVERY.

FRED C. LOECKNER & CO., INC.

15 East 25th St., New York 10, N. Y.

## ENGLISH IVY (HEDERA HELIX)

8 to 12 ins., \$50.00 per 1000.

BAL TIC IVY \$50.00 per 1000.

(Outside mist-propagated.)

IVYDALE NURSERY

Upper River Road, Gallipolis, O.

## LINING-OUT STOCK

## LINING-OUT STOCK

From open beds and the field.

Pfitzer Juniper, 4 to 6 ins.,..... \$0.66 || 2-yr., field, 8 to 10 ins.,..... | .18 |
Pfitzer Juniper, 2 1/4-in. pots, 2-yr.,.....	.18
Ilex burfordii, rooted cuttings.....	.04
Ilex rotundifolia, rooted cuttings.....	.04
Nandina, 2 1/4-in. pots, 4 to 6 ins.,.....	.12
seedlings, 4 to 6 ins.,.....	.04
seeds (November 1 and after) per lb.,.....	1.00
Euonymus patens, rooted cuttings.....	.03
1-yr., field liners, 5 to 7 ins.,.....	.06
2-yr., field, 6 to 10 ins.,.....	.07
Abelia grandifl., 1-yr. field liners.....	.05

F. F. DuBOISE, HUNTSVILLE, ALA.

## LINING-OUT STOCK

## IMMEDIATE DELIVERY

Per 100	
<i>Abelia grandiflora</i> , 1-yr., T.....	\$15.50
<i>Arborvitae</i> , boothl., 6 to 8 ins., X.....	23.50
8 to 10 ins., X.....	28.50
<i>Arb. douglasii aurea</i> , 8 to 10 ins., X.....	28.50
<i>Arborvitae</i> , nigra, 6 to 8 ins., X.....	23.50
8 to 10 ins., X.....	28.50
<i>Berberis juliana</i> , 6 to 8 ins., X.....	23.50
8 to 10 ins., X.....	28.50
<i>Concolor Fir</i> , 4 to 6 ins., X.....	17.50
6 to 8 ins., X.....	22.50
<i>Heather</i> (purple), 2-yr., T.....	23.50
<i>Ilex convexa</i> bullata, 8 to 10 ins., X.....	22.50
<i>Ilex microphylla</i> , 6 to 8 ins., X.....	22.50
8 to 10 ins., X.....	27.50
<i>Ilex rotundifolia</i> , 6 to 8 ins., X.....	22.50
8 to 10 ins., X.....	27.50
<i>Leucothoe catesbaei</i> , 2-yr., T.....	28.50
<i>Taxus Jeffreyi</i> , 6 to 8 ins., X.....	23.50
<i>Lucidum</i> (upright), 8 to 10 ins., X.....	25.00
<i>Osmanthus aquifolium</i> , 8 to 10 ins., X.....	25.00
<i>Retinospora Goldust</i> , 14 to 16 ins., X.....	28.50
<i>Retinospora juniperoides</i> , 6 to 8 ins., X.....	23.50
<i>Retinospora lutescens</i> , 8 to 10 ins., X.....	23.50
10 to 12 ins., X.....	27.50
<i>Retinospora obtusa crippl.</i> ,.....	22.50
6 to 8 ins., X.....	23.50
<i>Taxus cuspidata</i> , 6 to 8 ins., X.....	23.50
8 to 10 ins., X.....	28.50
<i>Taxus Jeffreyi</i> , 6 to 8 ins., X.....	23.50
8 to 10 ins., X.....	28.50
<i>Taxus hatfieldi</i> , 6 to 8 ins., X.....	23.50
8 to 10 ins., X.....	28.50
<i>Taxus Halloran</i> , 6 to 8 ins., X.....	23.50
8 to 10 ins., X.....	28.50

Write for complete fall list.

ESHAM'S NURSERIES, MILLSBORO, DEL.

## GOLDEN GOOSE LINERS

For immediate delivery or reservation. All quotations are for beautiful lining-out stock from 2 1/4-in. pots, grown in open beds, under field conditions and ready for field planting.

Per 100	
<i>Ilex cornuta burfordii</i> , 10 to 12 ins.,.....	\$12.00
<i>Ilex cornuta</i> femina, 6 to 8 ins.,.....	10.00
<i>Ilex cornuta</i> femina, 10 to 12 ins.,.....	13.00
<i>Ilex crenata rotundifolia</i> , 6 to 8 ins.,.....	10.00
<i>Ilex crenata rotundifolia</i> , 10 to 12 ins.,.....	12.00
<i>Ilex crenata</i> bullata, 4 to 6 ins.,.....	18.00
<i>Ilex crenata</i> bullata, 6 to 8 ins.,.....	12.00
<i>Ilex crenata</i> microphylla, 4 to 6 ins.,.....	12.00
<i>Ilex opaca howardi</i> (Improved American Holly), 8 to 10 ins.,.....	16.00
<i>Photinia serrulata</i> , 8 to 10 ins.,.....	12.00
<i>Euonymus radicans</i> , 8 to 10 ins.,.....	8.00
<i>Ligustrum lucidum</i> (Griffing Black), 8 to 10 ins.,.....	10.00
<i>Ligustrum lucidum repandens</i> , 8 to 10 ins.,.....	10.00
<i>Ilex opaca</i> femina (American Holly), 6 to 8 ins.,.....	25.00
<i>Ilex opaca</i> East Palatka, 8 to 10 ins.,.....	15.00

Our Hollies are grown from either cuttings or grafts, from well-berried specimens, insuring berries for you. This stock guaranteed 100 per cent satisfactory or return for full refund.

TERMS: Packing without cost. 25 per cent with order, balance C.O.D. Minimum 50 of a kind, please.

## EVERGREEN NURSERIES

Poplar Pike

Germantown, Tenn.

## 1-YEAR BEDDED STOCK

*Ilex aquifolium*, male..... \$30.00 || *Ilex aquifolium*, female..... | 30.00 |
| *Ilex hetzi*..... | 15.00 |

## 2-YEAR BEDDED STOCK

*Azalea mollis*..... 20.00 || *Ilex hetzi*..... | 20.00 |
*Ilex convexa*.....	20.00
*Ilex rotundifolia*.....	20.00
*Pyracantha lalandi*.....	14.00
*Rhododendron* hybr., 8.....	25.00
*Taxus andersoni*.....	15.00
*Taxus browni*.....	15.00
*Taxus hicksii*.....	15.00
*Taxus nigra*.....	15.00
*Juniperus burkii*.....	35.00

## 3-YEAR BEDDED STOCK

*Azalea mollis*..... 35.00 || *Azalea ponticum*..... | 35.00 |
*Juniperus hetzi*.....	25.00
*Taxus cuspidata*.....	25.00
*Viburnum lantana*, tr. br. SEED.....	15.00
*Acer palm. purp.*, 1-YR. SEED.....	10.00
*Tree Peonies*, 2-YR. SEED.....	60.00

## MAHLSTEDE BROS.

5323-5351 Wilson Mills Rd.

Cleveland 24, O.

## FIELD-GROWN HEAVY LINERS

*Euonymus alatus compactus*, 3-yr., TT, well-b-branchd, 9 to 15 ins.,..... 40c || *Juniperus pfitzeriana*, 3-yr., TT, good caliper and root system, 12 to 18 ins.,..... | 40c |
| *Juniperus pfitzeriana* compacta, 3-yr., TT, excellent type, 10 to 15 ins.,..... | 40c |
| *Juniperus armstrongii*, 3-yr., TT, popular dwarf Pfitzer, 8 to 10 ins.,..... | 45c |

Immediate shipment for October planting. HILL PARK NURSERY, Center Point, Ind.

## FINER LINERS

Brand new catalog of ornamentals, Abellias to Viburnums, now ready. We are one of the oldest lining-out specialists in this country and are managed by 4th and 5th generation nurserymen. Our experience is your gain. Send for free copy today or visit us if you can.

JOHN VERMEULEN & SON, INC.  
Woodfern Rd., Neshanic Station, N. J.



## EVERGREENS

Blue Hetz Juniper, 6 to 8 ins.	
bare-root	\$.07
Pfitzer Juniper, 6 to 8-in. bands	\$.14
Spreading Jap. Yew, 6 to 8-in. bands	\$.20
Andorra Juniper, 6 to 8-in. bare-root	\$.06
Von Ehrh Juniper, 6 to 10-in.	
bare-root	\$.06
Burk's Juniper, 6 to 10 ins. bare-root	\$.14
DECIDUOUS, BARE-ROOT	
Blue Spiraea (Caryopteris), 8 to 12 ins.	\$.06
Buddelia, best blue, 6 to 10 ins.	\$.06
Buddelia, best red, 6 to 10 ins.	\$.06
Buddelia Snowbank, 6 to 10 ins.	\$.06
Chinese Beauty-Berry (Callicarpa)	\$.06
Ichotoma, 6 to 10 ins.	\$.06
Regels' Privet, 6 to 10 ins.	\$.06
Forstia Lynwood Gold, 6 to 10 ins.	\$.06
Forstia Spring Glory, 6 to 10 ins.	\$.04
Forstia Arnold's Giant (new dwarf), 4 to 5 ins.	\$.10
Hypericum Hidcoot, 4 to 6 ins.	\$.08
Wiegela Eva Rathke, 4 to 6 ins.	\$.06
BROADLEAFS	
Euonymus coloratus, 8 to 10 ins.	\$.03
Euonymus palatus, small, large or medium leaf, 6 to 10 ins.	\$.04
Texas (purple-leaf) Honeysuckle vine, 6 to 8 ins.	\$.05
Variegated leaf Honeysuckle vine, 4 to 6 ins.	\$.06
Less than 300 total order, add 2c per plant.	

## MCINCH GREENHOUSES

St. Joseph, Mo.

## LINING-OUT STOCK

	Per 100	Per 1000
Taxus capitata, 1-yr. S.	\$ 5.00	\$40.00
transplants, 1-yr. S.	6.00	50.00
2-yr. S.	10.00	90.00
Pot-grown grafts, shipping now.		Per 100
Acacia polycephala		\$15.00
Betula lacinata (Cutleaf Birch)		\$5.00
Carpinus betulus fastigiata		60.00
Cornus florida rubra		50.00
Cornus florida rubra Prosser		65.00
Cornus florida weichi var.		55.00
Hamamelis mollis		50.00
Pinus cembroides		60.00
Retinospora obtusa gracilis		50.00
Viburnum carlesii		50.00
Viburnum fuddi		50.00
Viburnum burkwoodii		50.00
Special prices on large quantities.		

## VERKADE'S NURSERIES, Wayne, N. J.

## HEAVY LINERS FROM FIELD BEDS.

	Per 100	Per 1000
Taxus capitata, 4-yr. TT, 12 to 15 ins.	\$65.00	
Taxus cuspidata, 4-yr. TT, 12 to 15 ins.	60.00	
Taxus capitata, 3-yr. TT, 10 to 12 ins.	55.00	
Taxus cuspidata, 3-yr. TT, 10 to 12 ins.	45.00	
Taxus brownii, 3-yr. TT, 10 to 12 ins.	50.00	
Taxus ovalis, 3-yr. TT, 10 to 12 ins.	45.00	
Taxus hickelii, 3-yr. TT, 10 to 12 ins.	40.00	
Euonymus vegetus, 3-yr. branched	35.00	
Euonymus vegetus, 2-yr. branched	25.00	
Euonymus patens, 2-yr. T, 8 to 12 ins.	18.00	
Alpine Currant, 3-yr. T, 12 to 18 ins.	25.00	
Rhodotypon kerrioides, 2-yr. T, 8 to 12 ins.	15.00	

## FRED P. STROHL'S NURSERY

5204 St. Joe Rd. Fort Wayne, Ind.

## POTTED LINERS, 2 1/2-IN.

Pfitzer Juniper, 6 to 10 ins.	\$.015
Ilex burfordi, 6 to 10 ins.	\$.13
Ilex rotundifolia, 5 to 8 ins.	\$.12
Nandina, 5 to 8 ins.	\$.10

## FROM OPEN SAND BEDS.

Pfitzer Juniper, 6 to 10 ins.	\$.07
Ilex burfordi, 4 to 6 ins.	\$.04
Ilex rotundifolia, 4 to 6 ins.	\$.04

8 per cent discount on deliveries before December 31, 1956.

## J. G. TSCHINKEL

115 N. Plymouth Huntsville, Ala.

## LINING-OUT STOCK

	Each	100	1000
Ilex convexa, 6 to 8 ins.	\$.30	\$30.25	
Ilex hetzi, 8 to 12 ins.	.40	.35	
Ilex rotundifolia, 6 to 8 ins.	.30	.25	
Ilex rotundifolia, 8 to 12 ins.	.40	.35	

Grown 2 years in beds, planted 8 ins. apart. The larger size makes ideal plants for gallon cans and direct sales.

Perla japonica, 6 to 9 ins. \$0.30 \$0.25

GERALD K. KLYN, INC., MENTOR, O.

Wholesale Rose Growers and Nurserymen

## LINING-OUT STOCK

We have a very fine selection of potted Evergreens, seedlings and rooted cuttings. All newest and best varieties. Write for our catalog.

## HAIER LUSTGARTEN NURSERIES

Jericho Turnpike, Middle Island, L. I., N. Y.

Phone Yaphank 4-3444

## LINING-OUT STOCK

Taxus fastigiata, upright	100
Taxus cuspidata, spreading	\$20.00
From 2 1/2-in. rose pots. Will average 6 ins. high.	

HILLCREST GREENHOUSES, Franklin, Pa.

## LINING-OUT STOCK

Rhus cotinus, 12 to 18 ins.	\$150.00
-----------------------------	----------

## THE SHENANDOAH NURSERIES

Shenandoah, Ia.

## Surplus Stock

can be easily and quickly turned into Cash

by listing it in the

American Nurseryman Classified Ads.

## PACHYSANDRAS

PACHYSANDRAS  
Out of 2-in. pots. \$12.00 per 100, \$100.00 per 1000. F.O.B. Elizabeth, N. J.  
DELAWARE VALLEY NURSERY  
948 N. Broad St. Elizabeth, N. J.

## PANSIES

## OUTDOOR-GROWN PANSY PLANTS

	Per 1000
Swiss Giants, super mixed	\$5.00
Jumbo, super mixed	5.00
Maple Leaf Giants, mixed	5.00
Amsterdam Giants, mixed, large blooms	6.00
Donovan's dwarf mixed	5.00
Coronation Gold, golden yellow	6.00
Laura, raspberry-rose	6.00

Cash or C.O.D.

P. O. Box 408 Kalamazoo, Mich.

## PEONIES

Strong 3 to 5-eye divisions from young plants. Immediate delivery. Packing free for cash with order, otherwise at cost.

	10	100	1000
Baroness Schroeder, flesh-pink	\$4.00	\$35	\$350
Canari, sulphur-white	4.00	35	325
Duch. de Nemours, ivory-white	5.00	40	375
Duch. d'Orleans, soft pink	3.00	25	225
Duc de Wellington, pure white	3.50	30	275
Edules superba, deep pink	3.00	25	225
Festiva maxima, ruby-red	4.00	35	325
Festiva maxima, white	5.00	35	325
Francis Ortez, crimson	4.00	30	275
Karl Rosenfeld, dark crimson	5.00	40	375
Lillian Wild, flesh to white	5.00	40	400
Marie Jacquin, semi-dbl. white	5.00	45	450
Mary Brand, crimson	7.00	60	500
Mme. de Verneville, white	4.00	25	250
Modeste Guerin, deep			
carmine-pink	5.00	40	375
Mons. Jules Elie, pink	5.00	40	375
Officialis rubra	6.00	50	450
Ozark Beauty, late deep pink	5.00	40	375
Queen Emma, silvery pink	4.00	30	275
Queen Victoria, white	3.50	30	275
Sarah Bernhardt, light pink	4.00	35	350
Venus, hydrangea-pink	4.00	35	350
Mixed Peonies, grown mixed	2.50	20	200
Pink Peonies, not named	2.75	25	250
White Peonies, not named	2.75	25	250
Red Peonies, not named	2.75	25	250

## JAPANESE PEONIES

Dr. Jekyll, dark red	\$7.50	\$60
Neon, rose-pink	7.50	60
Nippon Splendor, tall dark red	6.00	50
Prairie Afire, pink guards, red petals	7.50	60

## PEONY LINERS

2 to 3-eye divisions, 25 per cent off the 3 to 5-eye price; 1 to 2-eye divisions, 50 per cent off the 3 to 5-eye price.

5 of a variety at 10 rate; 25 of a variety at 100 rate; 250 of a variety at the 1000 rate.

We grow many additional varieties of Peonies. Send us a list of your additional requirements for quotation. Iris and Day Lily list on request.

## SARCOXIE NURSERIES PEONY FIELDS

Sarcoxie, Mo.

## PEONIES

Clearing stock on land which has been sold. All clean, nursery-grown, to be sold in clumps, 3 to 5-eye divisions and liners.

Includes best cut-flower varieties, Japanese, brilliant new hybrids. Special prices for large quantities.

12,000 Avalanche	\$0.30
2,500 Bayadere	.21
13,000 Edules superba	.21
5,000 Felix Crousseau	.21
10,000 Festiva maxima	.27 1/2
15,000 M. Jules Elie	.32 1/2
RY COLOR: Pink	.18
White	.20

Send for complete variety list.

## STYER'S NURSERIES

Concordville, Pa.

## PEONIES

Whole 1-yr. field clumps, not divided; at least 2 eyes, in the following varieties.

\$35.00 per 100, \$325.00 per 1000.

Festiva maxima	Mons. Jules Elie
Baroness Schroeder	Deesse de Nemours
Sarah Bernhardt	Albert Crousseau
Karl Rosenfeld	Reine Hortense
Marie Lemoine	Adolph Rousseau
Lady Alex. Duff	Felix Crousseau
Glen McMahon	Edules superba

## VERKADE'S NURSERIES, Wayne, N. J.

Peony edulis superba, large, early pink; large 3 to 5-eye divisions from 3-yr.-old block, \$30.00 per 100. F.O.B. here.

Gilbertson Nursery, Kindred, N. D.

## PHLOX

HARDY PHLOX  
Write for our new list of 1-yr. field-grown Phlox, which will be ready for shipment after October 1.

PHLOX SUBULATA (Creeping Phlox)  
Our new crop of field-grown clumps looks exceptionally well this year. Ask for our list of 18 popular varieties at \$12.00 per 100, \$100.00 per 1000.

## WALTERS GARDENS

Zeeland, Mich.

## RHODODENDRONS

## PEAT-GROWN

## HYBRID RHODODENDRON GRAFTS

3-yr. grafts, bushy	
50 Roseum elegans, 15 to 18 ins.	\$3.00
50 Roseum elegans, 18 to 24 ins.	4.00
25 Roseum superbum, 15 to 18 ins.	3.00
35 Roseum superbum, 18 to 24 ins.	4.00

Banded liners are in flats of 14 each. No shipping of banded or E&B material. Beetle zone only. 50 per cent with order will hold for later or spring 1957 delivery; balance before shipment goes out. Come and see us. We may have something you want.

## RITTER'S NURSERY

Benton, Columbia County, Pa.

## RHODODENDRONS

For immediate shipment. Unnamed hybrids of hardy ponticum, catawbiense parentage. Good foliage. With firm, lightweight ball, twice transplanted, bed-grown. 4 to 6 ins., 20c each; approx. 25 lbs. per crate. 50 plants per crate. Order by crate only. 500 or more of a size, 10 per cent discount. Lightweight, expert, frost-proofed crating free. Cash with order.

## RICHARD P. RESSEL NURSERY

Mulino, Ore.

## HYBRID RHODODENDRONS

Var. America (red), Roseum elegans (rose-purple). Field-grown in open sun. Bushy plants.

	EACH	10	100
15 to 18 ins.	rate	rate	rate
18 to 21 ins.	\$5.00	\$4.50	\$4.50
2 to 2 1/2 ft.	7.00	6.50	6.50
	8.50	8.00	8.00

Cash and carry.

## SPRINGFIELD NURSERY

Springfield, N. J.

20,000 hybrid Rhododendrons, 12 to 18 ins. B&B, 70 varieties, \$1.95 and \$2.75 per 100; 50,000 rooted cuttings, 200 varieties, 50c each. 150,000 Azaleas, any size and variety; also Evergreens.

Kordus Nursery, Deer Park Ave., R. D. 4.

Box 152, Huntington, L. I., N. Y.

## HYBRID RHODODENDRONS

Landscape sizes.

Different colors.

## PARMENTIER'S ROSES

Bayport, L. I., N. Y.

Phone Bayport 8-0811

## RHODODENDRON MAXIMUM

Nursery-grown and collected. 2 to 7 ft.

high. Well-shaped, symmetrical plants.

## CURTIS NURSERIES, INC.

Callicoon, N. Y.

## ROSEBUSHES

## 2-YEAR PLANTS

Grown, graded and packed to perfection. 246 varieties and 12 different types to choose from.

WRITE TODAY FOR PRICES

AND BOOK YOUR REQUIREMENTS NOW!

## ROSEMONT NURSERIES

D. L. Thompson, Owner

Dept. AN

Tyler, Tex.

## ROSEBUSHES, FREE FROM DISEASE

Write for price on quality 2-yr.-old, field-grown bushes for fall 1956 and spring 1957 delivery. Standard bush and climbing.

## LIVE DELIVERY. HEAVY GRADING.

## BARE-ROOT OR PACKAGED.

Prepaid delivery. Reasonable prices.

We are equipped to handle your order for one or one hundred thousand bushes.

## ROSELAWN NURSERIES

Box 295 Winnaboro, Tex.

## THE SEASON'S BEST DEAL!

## SEE FOR YOURSELF

BY

SENDING FOR 1956-57 TRADE LIST.

WE STILL OFFER A CHOICE OF

BARE-ROOT AND PREPACKAGED

PATENT AND STANDARD ROSES.

## NEW LONDON ROSES

"The Rose Nursery"

P. O. Box 876 Overton, Tex.

## ROSEBUSHES

A WIDE ASSORTMENT OF REASONABLY

PRICED, HIGH-QUALITY ROSEBUSHES,

WITH FAST, COURTEOUS SERVICE.

IS WHAT YOU GET AT

## MARTIN'S ROSE NURSERY

P. O. Box 155 Arp, Tex.

Phone UL-92191

(A copy of our 1956-57 trade list will be mailed to you upon request.)

## FIELD-GROWN ROSEBUSHES

## FINEST QUALITY

Hybrid Teas, Floribundas,

Polyanthas and Climbers.

Price and variety list on request.

## WELLS BROS. NURSERY

Box 625 Lindale, Tex.

## 2-YEAR ROSEBUSHES, QUALITY PLANTS

70 varieties. Budded on multiflora. No. 1,

\$35.00; No. 1 1/2, \$27.00; No. 2, \$20.00 per 100.

Also 300 patented varieties. Send for list.

P. O. TATE NURSERY, R. 3, TYLER, TEX.



## SEEDS

**LAWN SEED MIXTURES, IN BULK**  
**CENTRAL PARK**, prime mixture for quick green cover, 100 lbs., \$35.00; 50 lbs., \$18.00.  
**LAWNMAKER**, our leader for sun or shade, 100 lbs., \$30.00; 25 lbs., \$24.00.  
**LONG ISLAND FORMULA**, 100 lbs., \$69.00; 25 lbs., \$18.50.

**OTHER FORMULAS**. Write for mixture percentages and complete list.

J. S. GROSS & CO. Huntington, N. Y.  
 Cherry Lane HU 4-4533

## MULTIFLORA ROSE SEED

Thorny variety, 1956 crop.  
 1 to 5 lbs. .... \$3.75 per lb.  
 6 to 25 lbs. .... 3.50 per lb.  
 26 to 50 lbs. .... 3.20 per lb.

Write for prices on larger amounts.  
**FARMLAND IMPROVEMENT CO.**  
 Yorkville, Ill.

## QUERCUS PALUSTRIS

(Pin Oak)  
 New crop acorns, water-tested, high quality.  
 100 lbs. or more, 30¢ per lb.  
**P.O.B. Sumner, Mo.**  
 Order now to insure delivery for fall planting.

C. D. WRIGHT, SUMNER, MO.

"Pure Ky." BLUEGRASS LAWN SEED  
 In the heart of the bluegrass country, we specialize in producing good seed.  
 Crop is short this year. Prices subject to change and unaid. 10 lbs., \$9.00; 25 lbs., \$19.00; 50 lbs., \$38.50; 100 lbs., \$75.00.  
**F.O.B. here.**

**WALNUT LAWN FARM**  
 Lexington, Ky.

## SHRUBS AND TREES

**FINEST NURSERY STOCK WE HAVE EVER HAD**

A bargain for the man who can dig and ball his own stock.

Azalea Hino, 18 to 20 ins.	\$ 1.75
Magnolia nigra, 4-yr.	1.75
Flowering Tamarix, 6 ft., 3-yr.	.50
Weigela rosea, 6 ft., 3-yr.	.50
Foraythia Spring Glory, 6 ft., 3-yr.	.50
Red Japonicas, 3-yr.	.75
Hydrangea Peegee, 2-yr.	.50
Hibiscus Mallow Marvel, 4 ft.	.50
Deutzia, 3 ft.	.50
Spiraea vanhouttei, 3-yr.	.50
Paul's Scarlet Rose, 3-yr.	.75
White Pine, 6-yr., 4 to 5 ft.	.75
Weeping Willow, green-stem; 12 ft.	1.00
Weeping Willow, 6 ft.	.50
Buttonwood, 2 ft.	2.00
Buttonwood, 8 ft.	2.50
Buttonwood, 6 ft.	1.00
Buttonwood, 4 ft.	.50
Chinese Elm, 8 to 9 ft.	1.50
Larch, 10 ft.	2.00
Althaea, mixed colors, 6 to 7 ft.	1.00
Abelias, 18 to 24 ins.	.40
Pink flowering Almond, 2 ft.	.75
Pussy Willows, 4 to 5 ft.	.50
Mimosas, 4 ft.	.50
Carolina Poplar, 4 ft.	.10
Lombardy Poplar, 4 ft.	.10
Horseradish roots, 1000	20.00
Red-leaved Jap. Maple, 1 ft.	.50
Silver Maple, 5 ft.	.25
Viburnum tomentosum, 1-yr.	.25
Spiraea Anthony Waterer, 3-yr.	.50
Red flowering Peach, double; 4 ft.	1.00
Spiraea billardi, 4 to 5 ft.	.35
California Privet, 1-yr., branched	.03 1/2
California Privet, 2-yr., branched	.08
Redbud (Judas Tree), 5 to 6 ft.	1.00
Althaea, seedlings	.02
Corallberry, purple in fall; 3 ft.	.50
Dogwood, pink; for advanced payment, order ahead one month. 5 to 6 ft., 1-in. caliper and up; 3 times transplanted; bushy heads.	
Each	5.00
Persian Lilacs, purple; 2 to 3 ft.	.75
White Lilacs, 2 ft.	.50
Common purple Lilacs, 2 ft.	.35
Cedar, 8 ft., nursery-grown	1.00
White Birch, clumps, 10 ft.	2.00
Althaea, 2 to 3 ft.	.35
Althaea, 4 ft.	.50
Tamarix, 6 ft.	.50
Tamarix, 5 ft.	.45
Tamarix, 4 ft.	.35
Tamarix, 3 ft.	.25
Tamarix, 2 ft.	.20
Spiraea Bird's Eye, 2 to 3 ft.	.50
Norway Maple, 3 ft.	.65
Mixed load, \$1000.00 worth for \$800.00.	

WM. WENZEL, ELMER, N. J.

## ASSORTED LARGE SHADE TREES

Moline Elm and soft Maples.  
 Stop by to see them.  
**MARQUETTE NURSERY**  
 9909 S. Harlem Ave.  
 Oak Lawn, Ill.

## "FAMOUS ROOT" FLORETUM LINERS

Priced per 100; 25 at 100 rate.

Acer, campestre, 4 to 10 ins.	\$10.00; 12 to 18 ins., \$15.00.
ginnata (Flowering Maple), 6 to 12 ins.	\$4.00; 15 to 18 ins., \$6.00; 2 to 3 ft., \$15.00; 3 to 5 ft., \$35.00.
negundo variegatum (Ash-leaved), 4 to 12 ins., \$10.00.	
pseudoplatanus (Sycamore), 4 to 10 ins.	\$6.00; atropurpureum, 4 to 10 ins., \$10.00.
rubrum (Scarlet Maple), 4 to 12 ins., \$6.00.	
saccharum (Sugar or Hard Maple), Kansas-grown seed; 4 to 8 ins., \$8.00; saccharum nigrum (Black Sugar Maple), 4 to 8 ins., \$10.00.	
Broussonetia papyrifera, 6 to 12 ins., \$15.00.	
Carpinus, tschonoskii (yedoensis), 3 to 8 ins., \$15.00.	
caroliniana (Am. Hornbeam), 6 to 15 ins., \$10.00.	
Cornus florida (white Dogwood), 4 to 12 ins., \$6.00.	
Diospyros virginiana (Am. Persimmon), 6 to 12 ins., \$6.00.	
Elaeagnus umbellata (autumn Elaeanthus), 2 to 4 ins., \$5.00.	
Fraxinus, americana (White Ash), 3 to 12 ins., \$4.00.	
excelsior (European Ash), 6 to 12 ins., \$6.00; 2 to 3 ft., \$12.00; 3 to 5 ft., \$25.00.	
ornus (Flowering Ash), 1 to 2 ft., \$12.00.	
Ginkgo biloba, 4 to 6 ins., \$12.00; 8 to 10 ins., \$15.00.	
Koeleria paniculata, 3 to 6 ins., \$6.00.	
Liquidambar styraciflua (Sweet Gum), 4 to 6 ins., \$6.00.	
Magnolia grandiflora, 2 to 4 ins., \$12.00; 5 to 10 ins., \$15.00.	
Nyssa sylvatica, 3 to 6 ins., \$8.00; 8 to 12 ins., \$12.00.	
Phellodendron amurense (Amur Cork Tree), 6 to 8 ins., \$8.00; 10 to 18 ins., \$10.00.	
Oriental Flowering Cherries:	
Prunus, serrulata, 6 to 12 ins., \$8.00.	
subhirtella (Higan), 6 to 10 ins., \$8.00; 12 to 30 ins., \$15.00.	
subhirtella pendula (Weeping), 6 to 12 ins., \$8.00; 12 to 18 ins., \$10.00; 18 to 24 ins., \$15.00; 2 to 3 ft., XX, \$100.00; 3 to 4 ft., XX, \$150.00.	
yedoensis (Yoshino), 6 to 18 ins., \$10.00.	
Quercus, alba (White Oak), 6 to 10 ins., \$6.00.	
macrocarpa (Bur Oak), 6 to 10 ins., \$15.00.	
oliveformis (Northern type), 2 to 4 ins., \$15.00.	
palustris (colorful Pin Oak), 4 to 10 ins., \$15.00.	
Sapindus drummondii (hardy Chinaberry), 4 to 12 ins., \$15.00.	
mukorossi (grape cluster), 4 to 8 ins., \$15.00.	
Zelkova serrata (Japanese Zelkova), 3 to 12 ins., \$15.00.	
Carya ovata (shagbark Hickory), 2 to 4 ins., \$10.00.	
Carya (Pecan), soft shelled; native; 4 to 8 ins., \$35.00.	
Callicarpa dichotoma purpurea, 2 to 4 ins., \$6.00.	
Spiraea Anthony Waterer, 4 to 8 ins., \$10.00.	
Euonymus fortunei vegetus (hardy Evergreen), for shrub or hedge; 3 to 6 ins., \$8.00.	
Lonicera tatarica, X, 6 to 12 ins., \$6.00.	
Vitex agnuscastus, X, 8 to 24 ins., \$8.00.	
macrophylla (Pepper Tree), X, 8 to 24 ins., \$8.00.	
Wistaria macrobotrys, long clusters, fragrant purple flowers; 6 to 10 ins., 3-in. bands, \$50.00.	

## PRAIRIE SOUTHWEST FLORETUM

Fall River, Kan.

## PINK FLOWERING DOGWOOD

2 to 3 ft., bare-root	\$1.15 each
2 to 3 ft., well-calipered	1.25 each
3 to 4 ft., well-calipered	1.50 each
3 to 4 ft., well-calipered	1.75 each

## WHITE FLOWERING DOGWOOD

3 to 4 ft., bare-root	.40 each
3 to 4 ft., well-calipered	.75 each
4 to 5 ft., well-calipered	1.00 each
4 to 5 ft., well-calipered	1.15 each
5 to 6 ft., well-calipered	1.50 each

## OAKLEAF HYDRANGEA

18 to 24 ins., 2-yr., branched	.25 each
2 to 3 ft., 2-yr., branched	.40 each
3 to 4 ft., 2-yr., branched	.60 each

## SILVER MAPLE

12 to 18 ins., seedlings	\$10.00 per 1000
18 to 24 ins., seedlings	15.00 per 1000
2 to 3 ft., seedlings	20.00 per 1000
3 to 4 ft., seedlings	30.00 per 1000
4 to 5 ft., seedlings	35.00 per 1000
4 to 5 ft., branched	50.00 per 1000
5 to 6 ft., branched	60.00 per 1000
5 to 6 ft., 1 1/4 to 1 1/2-in. caliper	85.00 per 1000

## SPRAEA VANHOUTTEI

2 to 3 ft., 2-yr., branched	100.00 per 1000
3 to 4 ft., 2-yr., branched	125.00 per 1000

## THE PARK NURSERY CO.

911 Pike St. Huntsville, Ala.

## FINE LINERS

Brand new catalog of ornamentals. Abelias to Viburnums, now ready. We are one of the oldest lining-out specialists in this country and are managed by 4th and 5th generation nurserymen. Our experience is your gain. Send for free copy today or visit us if you can.

JOHN VERMEULEN & SON, INC.  
 Woodfern Rd. Neshanic Station, N. J.

## POTTED GRAFTS, 1-YR.

	Per 100
Acer palmatum atropurpureum	\$ 75.00
Fagus sylvatica aspinifolia	75.00
Fagus sylvatica pendula	75.00
Fagus sylvatica fastigiata	75.00
Fagus sylvatica riveria	75.00
Picea pungens moerhousii	125.00
Picea pungens kosteriana	125.00

## ROOTED CUTTINGS, 1-YR. BEDDED

	Per 100
Buxus sempervirens, 4 to 6 ins.	\$ 90.00
Ilex bullata, 4 to 6 ins.	90.00
Ilex crenata, 5 to 8 ins.	90.00
Ilex glabra, 4 to 6 ins.	90.00
Juniper, Andorra, 4 to 8 ins.	90.00
Juniper, hibernica, 5 to 8 ins.	90.00
Juniper, Hetz, 4 to 8 ins.	100.00
Juniper, Pfitzer, 4 to 6 ins.	100.00
Ilex glabra, 4 to 6 ins.	100.00
Pachysandra	4.00
Pyracantha lalandi, potted	15.00

## RETINOSPORA PLUMOSA AUREA

6 to 8 ins.	10.00
8 to 10 ins.	10.00
10 to 12 ins.	10.00
12 to 14 ins.	10.00
14 to 16 ins.	10.00
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66 to 68 ins.	10.00
68 to 70 ins.	10.00
70 to 72 ins.	10.00
72 to 74 ins.	10.00



## SHRUBS and TREES—Continued

**PHILADELPHUS AUREUS**  
Ready for immediate shipment.  
Per 100 Per 1000  
2-in. pots ..... \$22.50 \$200.00  
1959-1960 rate.

**LOUIS COLAVECCHIO NURSERY**  
1487 N. Ridge Rd. Painesville, O.

**FOR FALL AND SPRING PLANTING**  
400 cutleaf weeping Birch, 2 to 3-in. cal.  
80 European Mountain Ash, 1½ to 2½-in. cal.  
**BELLE VALLEY NURSERY**  
R. D. 6, Box 373 Erie, Pa.

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**CLEMATIS VINES**  
Jackman, Ernest Markham and all popular varieties. Various sizes. Fall or spring delivery. Write for quotations.  
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Check Your Stock NOW!  
If you have a surplus  
Sell it through the  
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**ASPARAGUS ROOTS**  
Martha Washington, 2-yr., \$15.00 per 1000  
**CONCORD GRAPES**  
2-yr., No. 1, \$10.00 per 100.  
Write for quotations of large fruit trees and berry plants.  
**BASHAM NURSERY**, Mountainburg, Ark.  
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## WANTED

1000 to 5000 Kwanzan flowering Cherry  
1 and 2-yr.-old, field-grown grafts.  
Spring 1957 delivery.  
Send best prices.

**KARL FEILE**  
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## WANTED

Contracts for rooting 50,000 Evergreen cuttings. Have facilities and space available during fall and winter. Write or visit us.  
**LIEBHART GREENHOUSES, NORWALK, O.**

## WANTED

Hardwood cuttings of Taxus, Vermeulen, hatterfield, kelseyi, brevifolia, intermedia and hickel.  
Please state amount and prices for the 1950 rate.

**WOODFERN NURSERY**  
Woodfern Rd. Neshanic Station, N. J.

## WANTED TO BUY

6 CEDRUS ATLANTICA GLAUCOA  
Landscaping size,  
5 to 7 ft. tall.  
Write

**CLARENDON GARDENS NURSERY**  
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## WANTED

**GINKGO BILOBA LANDSCAPE MATERIAL**  
2, 2½ and 3-in.  
Kindly include height and price in answering.  
**FOREST HILLS NURSERIES, INC.**  
1073 Reservoir Ave.  
Cranston 10, R. I.

## SUPPLIES AND SERVICES

## BURLAP

**NEW BURLAP**  
In bolts of 100 to 125 yards  
**HEAVYWEIGHT BURLAP**  
FOR PROTECTION.  
36 ins. .... 19½¢ per yard  
40 ins. .... 20¼¢ per yard  
45 ins. .... 22½¢ per yard  
48 ins. .... 24¢ per yard  
54 ins. .... 26¢ per yard  
60 ins. .... 28¼¢ per yard  
72 ins. .... 34¼¢ per yard  
**LIGHTWEIGHT, 57-IN. BURLAP**  
EROSION CLOTH for seeded lawns and slopes,  
18¼¢ per yard. All prices net F.O.B. New York.  
Minimum order 1 bolt. Orders of 3 bolts or more freight prepaid.  
**LEWIS INTERNATIONAL CO.**  
666 Clinton Ave., Newark 8, N. J.

## BURLAP SQUARES

**ONCE USED, FULL SIZE**  
24x24 ins., 8 oz. .... \$42.50 per 1000  
24x26 ins., 8 oz. .... 45.00 per 1000  
28x28 ins., 8 oz. .... 58.00 per 1000  
30x30 ins., 8 oz. .... 65.00 per 1000  
32x32 ins., 8 oz. .... 70.00 per 1000  
36x40 ins., 8 oz. .... 90.00 per 1000

## TREATED BURLAP SQUARES

24x26 ins., 8 oz. .... \$74.50 per 1000  
28x28 ins., 8 oz. .... 90.00 per 1000  
30x30 ins., 8 oz. .... 105.00 per 1000  
32x32 ins., 8 oz. .... 110.00 per 1000  
**F.O.B. NURSERY 1000 OR MORE**  
**PHILIP KRAVITZ BAG CO.**  
P. O. Box 763 Dayton, O.

9,500 Active Nurserymen  
are in need of stock.  
List your offerings in the  
American Nurseryman Classified Section.

## CHRISTMAS TREES

**FRESH CUT CHRISTMAS TREES**  
AT WHOLESALE  
Pasture Balsam, plantation Norway Pine,  
White and Blue Spruce,  
Baled boughs, 25-lb. bales.  
Handmade wreaths, made to order.

## VERN BUSHAR

(Cascade Nursery)  
P. O. Box 468 Schofield, Wis.

## CHRISTMAS TREES

Scotch Pine, 5 to 8 ft., select, pruned,  
plantation-grown trees from Western Michi-  
gan's Ottawa County. Will deliver in truck-  
trailer quantities within 400 mile radius.  
Write or phone.  
**R. D. MILLER NURSERY**  
R. 4, Wood St. Lansing, Mich.

## DECORATIVES

Pine cones, ½-in. to 1-ft. long. Illustrated  
folder with description of autumn and  
Christmas uses. Western Tree Cones, 1925  
Brooklane, Corvallis, Ore.

## FERTILIZERS

**SOLUBLE FERTILIZERS**  
**PETERS SPECIAL**, 20-20-20, general pur-  
pose feed.  
**PETERS SPECIAL**, 21-7-7, chelate iron,  
Azalea neutral.  
**PETERS SPECIAL**, 21-7-7, chelate iron,  
Azalea acid.  
\$6.50 per 25-lb. bag, \$22.00 per 100 lbs.  
F.O.B. Allentown, Pa.  
**ROBERT B. PETERS CO.**  
739 N. 7th St. Allentown, Pa.

## FLATS

**MINNESOTA WHITE CEDAR FLATS**  
Order by No. Wt. Price  
Per 100 Per 1000  
No. 1, 14x20x2½ ..... 320 \$25.00  
No. 2, 14x20x2½ ..... 400 29.00  
No. 3, 12x16x2½ ..... 260 19.00  
No. 4, 12x16x2½ ..... 275 22.50  
No. 5, 14x16x2½ ..... 275 21.50  
No. 6, 14x16x3 ..... 290 25.50  
No. 7, 15x22½x2½ ..... 380 28.50  
No. 8, 15x22½x3 ..... 425 33.00  
No. 9, 11¼x22½x2½ ..... 320 23.00  
No. 10, 11¼x22½x3 ..... 400 25.75  
No. 11, 14x15x5 ..... 450 30.00  
No. 12, 5x11x5 ..... 150 16.00  
No. 13, 5x16x5 ..... 215 18.50  
Plant boxes, 5x8½x2½ ..... 45 5.00  
All other sizes quoted on request.

5 per cent discount on order of 1000 or more.

The above measurements are inside. Bot-  
toms and sides of cedar flats are ¾-in. thick;  
ends are ¼-in. Plant boxes are thinner.

All material surfaced on one side.  
Your name and address printed up to 3  
lines in black ink, on one or both end pieces  
at the following rates: Set-up charge, \$1.00,  
plus ¼¢ per piece for the first 1000 ends, ½¢  
per end thereafter. Shipped knocked-down  
in units of 25.

All shipments by truck unless otherwise  
ordered. F.O.B. Cook, Minn. Attach check.  
**H. C. HILL & SONS, Cook, Minn.**

## REDWOOD FLATS, K. D.

Finest stock obtainable. Guaranteed all  
clear heart. Size 20x15x3 ins. inside measure.  
\$38.00 per 100.

1x1-in. Cypress stakes, pointed.  
50 pcs. to bundle, 4 ft., \$2.50 per bd.  
50 pcs. to bundle, 5 ft., \$4.50 per bd.  
50 pcs. to bundle, 6 ft., \$5.50 per bd.  
Ship same day. Cash with order, please.  
**YOHO & HOOKER, Youngstown 2, O.**

Small Ads Do Great Things in the  
American Nurseryman Classified Section.

## LABELS

## DAHLIA OR TREE LABELS

Priced per 1000  
Plain Painted  
3¼x½ ins., notched (not wired) ..... \$2.50 \$3.00  
3¼x½ ins., wired (copper) ..... 3.30 4.10  
**POT LABELS**  
4x½ ins. (cartons 1000 each) ..... 3.30 3.95  
5x½ ins. (cartons 1000 each) ..... 3.60 4.30  
6x½ ins. (cartons 1000 each) ..... 3.90 4.85  
8x½ ins. (cartons 500 each) ..... 6.00 7.20  
10x½ ins. (cartons 500 each) ..... 7.00 8.50

## GARDEN STAKES

Price per carton  
8x ¾ ins. (cartons 250 each) ..... 2.50 3.00  
10x ¾ ins. (cartons 250 each) ..... 2.75 3.25  
12x1 ½ ins. (cartons 100 each) ..... 1.75 2.00

The original brand pencil  
pencils per box, \$1.25.

Our labels are perfectly white and smooth  
on both sides and are pronounced by growers  
the best and most economical.

"We ship the same day."  
**YOHO & HOOKER**  
Youngstown 2, O.

## PEAT MOSS

**HOLLAND PEAT MOSS**  
"BRODLEAF" quality. Just arrived.  
Standard burlapped bales.  
\$3.65 each; 10, \$34.25.  
Priced F.O.B. Houston.  
**WRIGHTWOOD FLORAL CO., INC.**  
2407 N. Main St. Houston 9, Tex.

## ORCHID SUPPLIES

**OSMUNDA**, mixed. Bu., \$2.00. Prof. bag,  
\$1.00. Standard bale, f.o.b. Houston, \$11.00;  
2 for \$21.00. Standard bale, f.o.b. Florida,  
\$8.00; 2 for \$15.00.  
**DETEX**, a safe DDT spray. Qt., \$3.50;  
gal., \$11.00.  
**WALL TYPE POT HANGERS**, hold up to  
4-in. pots. Rust-resistant. Space savers.  
Each, 25¢; doz., \$2.75; 50, \$10.00; 100,  
\$18.50.  
**BACTO ORCHID AGAR** (Difco). ¼ lb.,  
\$3.35; 1 lb., \$14.00.  
**SHREDDED WAX PAPER**, protect your  
blooms and plants when packing and ship-  
ping. Lb., 65¢; 10 lbs., \$5.50.  
**PRICED F.O.B.** Subject to change with-  
out notice.  
**WRIGHTWOOD FLORAL CO., INC.**  
2407 N. Main St. Houston 9, Tex.

## PLANT TIES

THE NEW FADE-PROOF  
QWIK-TIES

Now made of colorfast plastic for the  
florist trade.  
Semi-invisible, economical, easy to use.  
Packed in cartons of 10,000 Per carton  
4-in. .... \$10.00  
8-in. .... 18.00  
12-in. .... 27.00  
Postage paid when cash with order.  
Carton lots only!  
**McHUTCHISON & CO.**  
695 Grand Ave. Ridgefield, N. J.  
Phone Whitney 3-2250

## PLANT TUBS

**UTILITY PLANT TUBS**  
Made from New England White Pine  
F.O.B. F.O.B.  
**STAINED GREEN New Hampshire Chicago**  
Top dia. Depth Per 100  
7-in. .... \$7.50 \$9.50  
8-in. 5-in. .... 82.50 90.00  
8½-in. 6½-in. .... 85.00 92.50  
8-in. 8-in. .... 90.00 97.50  
9-in. 6-in. .... 87.50 95.00  
9-in. 9-in. .... 95.00 105.00  
10½-in. 6½-in. .... 95.00 105.00  
10-in. 9-in. .... 102.50 117.50  
11-in. 7-in. .... 95.00 110.50  
12-in. 7-in. .... 102.50 127.50  
12-in. 9-in. .... 125.00 145.00  
12-in. 11-in. .... 160.00 180.00  
14-in. 8-in. .... 165.00 185.00  
14-in. 13-in. .... 190.00 210.00  
ABOVE PRICES APPLY ALSO ON QUAN-  
TITIES LESS THAN 100. MINIMUM OR-  
DER, 5 tubs of any one size.  
**ALEC HENDERSON, INC.**  
1305 W. Randolph St. Chicago 7, Ill.  
Phone Monroe 6-3082

## PLASTIC FILM

**POLYETHYLENE FILM**  
2 mil. in 200 ft. rolls, 36 ins. wide, \$6.18;  
54 ins. wide, \$9.25; 108 ins. wide, \$18.45;  
4 mil. in 100 ft. rolls, 36 ins. wide, \$6.87;  
54 ins. wide, \$9.51; 126 ins. wide, \$21.37.  
F.O.B. Cincinnati, O.  
**ROUGH BROS.**  
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## SPHAGNUM MOSS

1956 CROP NO. 1 SPHAGNUM MOSS  
Large burlap bales, long fibered, clean,  
firmly packed; bale, \$1.25. Quantity prices.  
**JOSEPH JAMROS, CITY POINT, WIS.**



Long-fibered sphagnum moss, also ground moss. Price us on truckloads delivered. Warrens Moss Co., Warrens, Wis.

## STAKES

BAMBOO STAKES, DOMESTIC DIRECT FROM THE PRODUCER			
PENCIL THICKNESS		Per 1000	
1 1/2	ft., green	.....	\$3.60
2	ft., green	.....	4.80
2 1/2	ft., green	.....	7.20
MEDIUM HEAVY, 3/4 to 1 1/2-in.			
1 1/2	ft., green or natural	.....	500 1000
2	ft., green or natural	.....	2.80 5.60
2 1/2	ft., green or natural	.....	4.75 9.50
3	ft., green or natural	.....	5.70 11.40
3 1/2	ft., green or natural	.....	6.65 13.30
4	ft., green or natural	.....	7.60 15.20
5	ft., green or natural	.....	9.50 19.00
6	ft., green or natural	.....	11.40 22.80
7	ft., green or natural	.....	13.30 26.60
HEAVY			
Per 100		1/2-in.	3/4-in.
4	ft., green or natural	.....	\$2.88 \$3.44 \$4.24
5	ft., green or natural	.....	3.60 4.30 5.20
6	ft., green or natural	.....	4.32 5.16 6.36
7	ft., green or natural	.....	5.04 6.02 7.42
8	ft., green or natural	.....	5.76 6.88 8.48
9	ft., green or natural	.....	7.74 9.54
10	ft., green or natural	.....	10.60
12	ft., green or natural	.....	12.72
* Approx. average thickness at bottom end.			
C. A. PATTERSON, CENTERTOWN, KY.			

Approx. average thickness at bottom end.  
A. C. PATTERSON, CENTERTOWN, KY.

## BAMBOO CANE STAKES

Dyed green, pencil thickness.  
Packed 2000 per bale.

		Per 1000	Per bale
1 1/2 ft.	.....	\$ 3.50	\$ 6.00
2 ft.	.....	4.50	8.00
2 1/2 ft.	.....	5.50	10.00
3 ft.	.....	7.00	12.00
3 1/2 ft.	.....	8.50	16.00
4 ft.	.....	9.50	18.00
5 ft.	.....	12.50	24.00

## SPLIT BAMBOO, DYED GREEN

Per 1000 Per bale (5000)

12 ins.	.....	\$2.50	\$10.00
15 ins.	.....	3.50	15.00
18 ins.	.....	4.50	20.00
24 ins.	.....	5.50	25.00

## F.O.B. CHICAGO

Quantity discounts: 10 bales up, less 5 per cent; 25 bales up, less 10 per cent.  
ALEC HENDERSON, INC.,  
1305 W. Randolph St. Chicago 7, Ill.

## NBS

## NURSERY BAMBOO STAKES

These imported stakes are specially selected for nursery use. All are bottom or butt cuts for minimum taper, cut closely to a joint to reduce splitting. These are the finest quality available.

		Per bale
4 ft., 1/2 to 3/4-in. dia., 500 per bale	.....	\$22.50
5 ft., 1/2 to 3/4-in. dia., 250 per bale	.....	17.50
6 ft., 1/2 to 3/4-in. dia., 200 per bale	.....	17.50
7 ft., 1/2 to 3/4-in. dia., 150 per bale	.....	19.00
8 ft., 1/2 to 3/4-in. dia., 100 per bale	.....	16.00

Less these generous quantity discounts:  
5 bales up, less 10 per cent; 10 bales up, less 15 per cent; 25 bales up, less 20 per cent. Bale lots only.

F.O.B. New York. Immediate shipment.

Pencil thick bamboo stakes also available.

Write for prices.

McHUTCHISON & CO.,  
695 Grand Ave. Ridgeland, N. J.

Phone Whitney 3-2230

## CYPRESS PLANT STAKES

50 Pieces to Bundle

1 1/2-in.-3 ft., pointed	.....	\$3.00 per bundle
1 1/2-in.-4 ft., pointed	.....	3.50 per bundle
1 1/2-in.-5 ft., pointed	.....	4.50 per bundle
1 1/2-in.-6 ft., pointed	.....	5.50 per bundle
1 1/2-in.-7 ft., pointed	.....	7.00 per bundle

These stakes are made of cypress and redwood; are good, strong stakes and will give long service. "A little better than seems necessary."

## WE SHIP SAME DAY!

YOH & HOOKER

Youngstown, O.

STAKES, GALVANIZED HARD STEEL FOR GREENHOUSES AND NURSERIES.

BENCH WIRE, galvanized.

STAKE FASTENERS

Prices and samples sent on request.

SCHUPP SUPPLY CO., WILMETTE, ILL.

## TRADE BOOKS

## TRADE BOOKS.

Suggestions for nurserymen and their employees:

NEW DESIGNS FOR SMALL PROPERTIES,  
by M. E. Bottomley, \$4.00.

MANUAL OF CULTIVATED TREES AND SHRUBS,  
by Alfred Rehder, \$12.50.

These books and others on horticultural subjects may be obtained, postpaid, at the publishers' prices indicated, from

AMERICAN NURSERYMAN

342 South Dearborn Chicago 4, Ill.

## HOW TO MAKE MORE MONEY

[Continued from page 8]

among ourselves—which is a principle any business depending upon sales must employ to some degree.

## Expenses Can Wipe Out Profits

The one control feature we are coming to rely on more than others, however, is the monthly examination of the different categories of expense (see exhibit 4). Although our sales have increased every year since our firm started, 10 years ago, except for one year, our profit picture has been somewhat erratic. One year our profit went down \$13,000 from the year before, while our sales stayed the same. In examining the expense picture for that year, we found that the labor picture reflected the entire amount of increased expense and consequent reduction in profit. This we would not attempt to correct by lowering wages. It is our belief that to do good work we must have good workmen who are adequately paid.

However, in looking back over the year and thinking about the labor situation, we could see that we had extra help that could have been dispensed with or used for greater production. If we had figured the percentage of labor to gross sales every week or month for the whole year, we should have caught the picture earlier in the year and corrected the situation in time to have made a better profit for the year.

We now figure the percentage of each of the important items of expense in proportion to the gross sales and compare that figure to a like figure for the same period or date the previous year or years. This tells us if any particular item is getting out of line and whether we are improving or losing ground. It also tells us where the specific trouble spots are, and we immediately go to work on them.

The expense items we happen to give most attention to are labor and wages, materials, stock, nursery supplies, equipment rental, transportation, insurance, advertising, depreciation and maintenance; all others are lumped. Purchases of stock or materials are not too important, because if they are not sold they represent economic value which can be turned into cash later. Such items do not actually represent expense, while labor that is used up and paid for is gone and reduces the profit margin if not efficiently employed.

I believe that the average landscape nurseryman and grower puts so much emphasis on the designing,

## Billions of Living Organisms

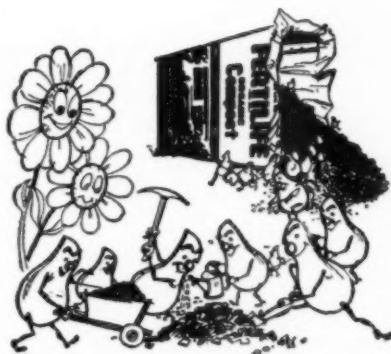
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# FERTILIFE

TRADE MARK

give your soil

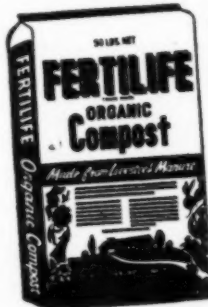
## "New Life"!



Put new life into nursery plots, greenhouse benches, seed flats, and potting soils with Fertilife—the amazing plant food that's "alive." Fertilife, composted from rich Chicago Stock Yards cattle manure, teems with billions of hard-working organisms. It is an organic compost with vital organisms multiplied and organic plant foods concentrated.

Fertilife is safe, easy, and pleasant to use—will not burn, no raw manure or trash, no weed seeds, not offensive. Buy Fertilife for your own use—and make a liberal profit margin wholesaling or retailing it to your trade.

Write for free sample and prices



CHICAGO STOCK YARDS COMPOST CO.  
503-G Exchange Bldg.  
Union Stock Yards  
Chicago 9, Ill.

## WANTED and FOR SALE ADS

Help and Situation Wanted and For Sale Advertisements

Display: \$4.00 per inch, each insertion.

Lines: 35¢ line; minimum order \$3.50.

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YOUNG NURSERYMAN,  
NOT OVER 35

Are you a man with modern ideas? This is a permanent position for a grower with great opportunities to advance himself. Must have good foundation as nurseryman, sufficient experience, but most of all an open mind, be ahead of the times, be able to put men to work and be familiar with labor-saving methods, soil sterilization, etc. Active owner is willing to help and advise you in any capacity.

We have a wonderful retail business, growing a large variety of stock and specializing in perennials, pansy seedlings, annuals, azaleas, rhododendrons and African violets. Efficiency and orderliness are the keyword at our nursery. A modern, new, 6-room brick house available on the premises. Salary increased according to responsibilities. Write immediately giving age, experience, references, salary expected, also marital status, children. If you are willing to work hard and prove yourself in order to make a success of your life in this profession, we have the position for you. Available at once!

BEHNKE NURSERIES  
Washington-Baltimore Blvd.  
Beltsville, Md.

### SITUATION WANTED

If you are looking for a truly capable, honest garden center manager with knowledge and experience in merchandising, buying and display of all allied lines including plant material, tools, insecticides, fertilizers and gifts, contact Box No. 323, care of American Nurseryman. Must be a participating proposition with real potential.

### HELP WANTED

EXPERIENCED  
LANDSCAPE CREW FOREMEN

Interest in doing high-quality landscape work for firm specializing in good design and unusual plant material important. Ability to handle plants according to best horticultural practices essential. Opportunity for advancement with growing business in metropolitan Wilmington. Apply in person, or by letter, to:

W. Earl Hamilton, Nursery Manager  
MILLCREEK NURSERY  
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### HELP WANTED

LANDSCAPE NURSERY SALESMAN  
Leading landscape nursery and garden center in Manhattan, Kan., offers steady employment to an experienced landscape salesman. Must be progressive and capable of drawing plans, selling and supervising landscape jobs. Applicant must furnish references, give age and qualifications for the job. Enclose picture with reply. Your inquiry will be kept strictly confidential.

Guy D. Mathews, owner  
MANHATTAN NURSERY  
R. 1 Manhattan, Kan.

### HELP WANTED

Manager to operate a seedling nursery in the lake region of central Minnesota. Can work with wages and profit sharing or can buy part interest in the nursery. Ideal soil, all light-weight irrigation, all new equipment and living quarters available. Address replies to: Box 322, care of American Nurseryman.

### HELP WANTED

General manager in charge of production for expanding southern nursery. Good facilities, pleasant working conditions. All replies kept strictly confidential. Our employees know of this ad. Write to Box 290, care of American Nurseryman.

**HELP WANTED—Landscape Salesman—**  
Excellent possibilities for salesman to work out of office of one of the largest nurseries in North Carolina. Write full details. NORTH STATE NURSERY CO., Julian, N. C.

### FOR SALE

Well-established going concern, fully stocked and equipped, with more business than can be handled. Located on major highway in northern Utah, adjacent to largest and fastest-growing cities in state, with very high-class clientele.

Business consists of general line of nursery stock and landscaping, mostly cash-and-carry. This is a thriving money-making business with unlimited potential and should pay for itself in five years. Four acres valuable land with office, salesyard and lath house. Little competition, no indebtedness.

Fine home adjoining, if desired. Photos available. Owner retiring. Price is \$65,000 with one-third cash down. Address replies to Box 324, care of American Nurseryman.

### FOR SALE

EQUIPMENT BUSINESS

Our well-developed line of tree diggers and root pruners. Seven years has proved their worth. We see unlimited potentials in the \$1 billion dollar federal road program. Millions of trees will have to be grubbed.

CHARLES ADAIR CO.  
1225 Cottage Grove Ave.  
Chicago Heights, Ill.

### SITUATION WANTED

"Oh, I wish . . ." Famous words, aren't they? Are you wishing for a nursery-garden center manager having ability, integrity and 25 years' experience? I offer you all of these. Am a good merchandiser, and financially successful. Address replies to Box 320, care of American Nurseryman.

### SITUATION WANTED

Thinking of a change? Tell potential employers about your abilities by using an ad in this department. The cost to reach the widest readership in the industry is only \$4.00 per inch.

growing, gardening and supervisory phases of his business that he neglects the administrative functions which are so important to the financial success (and indirectly the professional success) of his business. Conscious attention to the aforementioned techniques of administrative control would result in a healthier and more progressive business for the individual and, if widely adopted, surely would benefit the industry as a whole.

Such techniques are not difficult to apply, but in many cases it may be necessary to employ a competent auditor or bookkeeper to come in as necessary, once a month or so, to prepare a statement of profit and loss and a balance sheet.

In summary, the tendency that the landscape nurseryman has to measure his success by the amount of money he takes in for a year needs to be replaced with the habit of subtracting all of his costs from his receipts. This also needs to be done as a running check from month to month so that operations showing a loss or an inadequate profit can be studied and corrected to result in a reasonable gain.

### Thought-Provoking Illustration

Suppose that a nurseryman's operation is efficient. His expenses seem to be kept down to a minimum, and

### FOR SALE

8½ acres with 651 ft. facing Northwestern Highway. Three-fourths cleared, balance large trees. Has spring-fed lake, 4-bedroom, fieldstone house. New 40x40 concrete block stucco building. Some nursery stock. This is a show spot in suburban Detroit. Price \$160,000. Terms arranged.

H. M. SELDON CO.  
18901 W. 7 Mile Rd.  
Detroit 19, Mich.  
Phone: KE 5-2200

### FOR SALE

Nursery specializing in indoor and rock garden plants. Here is an opportunity for an energetic couple to make real money. Present owners making nice yearly profit but wish to retire. Write for full description.

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305 N. Main St. Sebastopol, Calif.

### FOR SALE

Used complete greenhouses. Used greenhouse materials, glass, pipe, valves, etc. Greenhouses bought for wrecking.

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**FOR SALE—**Used 30-lb. tins, \$50.00 per 1000 in carload lots. F.O.B. Beulah, Mich. Car average 5000-tin capacity. Cans cleaned before loading. For freight rates see your local agent. Lids available at \$15.00 per 1000. Samples on request. PET-RITZ FOODS, Beulah, Mich.

his sales are seemingly adequate also. Yet his income is far from satisfactory. Perhaps the answer for such a man is in pricing of both stock and service charges.

Many of us have the habit, when we bid on a job or when we set a price on a commodity, of thinking in terms of the gross amount of the bid or price. For instance, if we are bidding on a job that should bring \$1,000 we lightly knock off \$50 to insure getting the job. This reduces the price by only 5 per cent. However, if our net profit originally was to have been 10 per cent we have now reduced it for this job by 50 per cent.

By the same token, if our total net profit on our business is 10 per cent of gross sales, an over-all increase in charges of 10 per cent will double our net profit. Think it over!

We should also remember that we have a right to an income commensurate with our ability, training and hours, plus a fair return (from 5 to 8 per cent) for the risk capital that represents our plant, equipment and good will.

## PROPAGATION OF TAXUS

[Continued from page 16]

So many plants respond to wounding treatments that we have become inclined to apply the treatment to almost anything. Many tests on a wide range of taxus varieties over a number of years have proved conclusively that wounding is of no value. The cuttings root just as well without it.

### Rooting Medium

The best rooting medium is plain sharp sand. The addition of peat, except in minor percentages, is undesirable, and a 50-50 mixture of peat and sand will generally not root taxus so well as will plain sand. However, once the cuttings are rooted, then the addition of peat to the growing medium is a great advantage in the subsequent development of a good root system. We are concerned, however, with the rooting only, and I should unhesitatingly advise a simple medium of plain sharp sand.

### Hormone Treatments

While taxus can most certainly be rooted without treatment, I invariably use a dust treatment on all taxus cuttings. This produces a much more uniform and vigorous root system, and it is produced in much less time. This means that cuttings can be inserted in November and December with the sure

## More and more nurseries use and sell **BOTH**



## PREMIER PEAT MOSS

Premier Peat Moss is the No. 1 material for soil improvement . . . mulching . . . transplanting . . . lining out . . . seedbeds . . . and many other uses. That's why Premier is the biggest selling brand to nurseries and to home gardeners.

Use and sell Premier Peat Moss now—in moisture-proof, rot-proof plastic bales—big-value bales—colorful bags and cartons!

## Extra-Fine SOIL X-PEDITER

Premier Soil X-pediter is the extra-fine sphagnum peat organic—so fine in texture that it flows freely, spreads easily and blends uniformly with the soil. It makes roots feed faster—makes fertilizers work better.

Display Soil X-pediter—in double plastic-burlap bags and clear plastic bags—fast sellers at a high markup and established retail prices.

### Any Combination Can Be Shipped in One Car

Premier gives you the best packaging deal as well as the best quality—backed by superior resources and service.

Also Premier European Peat Moss in 3 sizes burlap-wrapped bales

Write, wire or phone for prices

PREMIER PEAT MOSS CORP., 535 FIFTH AVENUE, NEW YORK 17, N. Y.

## Reliance

The recommended fertilizer for  
**AZALEAS and CAMELLIAS**

Complete nourishment for acid-soil plants

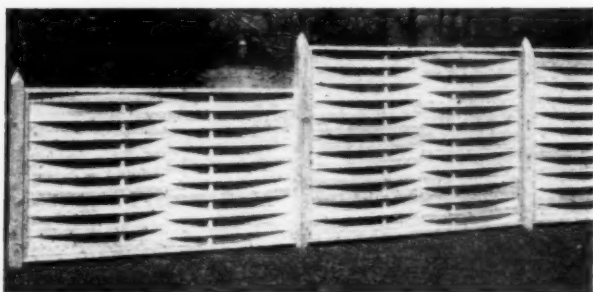
Send for FREE BOOKLET—this authoritative guide on Azalea and Camellia culture mailed on request

THE RELIANCE FERTILIZER CO., SAVANNAH, GA.

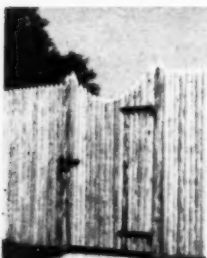




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**FARLEY BASKETWEAVE FENCING**—a decorative friendly fence. Horizontal members are locked in place to prevent splitting or pulling out.

**FARLEY PROTECTIVE STOCKADE**—America's favorite for landscaping backgrounds and maximum privacy. Tightly assembled of cedar saplings, carefully chosen for uniform appearance.

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FENCES**

Write for literature describing the many fence styles available together with Farley Fence prices and details concerning dealership in your area.

OFFICES: The Sams Building • Bay City, Michigan

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**PEAT-MOSS**—Pure Sphagnum Canadian • German

Available in 8 Popular Sizes  
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The Modern Landscape School

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knowledge that they will be well rooted with soft primary roots by mid-February. Heat can then be reduced and the cuttings allowed to continue development through March to produce a secondary root system which is hardened tough and firm. Such a root system will withstand the hazards of transplanting far better than a root system still in a brittle state. I believe that speed of rooting is a definite advantage on taxus for this reason. The percentage of survival is far greater when the root system has had time to harden. There is a wide variation in the effect of treatments on different varieties; an accompanying table shows the optimum treatments of most of the standard varieties as indicated by tests made during the past two years.

### Humidification and Watering

Despite some opinions to the contrary, I am convinced that if the rooting medium is composed of sharp sand with adequate drainage beneath the bench it is impossible to apply too much water to the benches of taxus cuttings, and I should go further and say that the use of regular and copious quantities of water applied either through a fog line or the hose is definitely advantageous. Once rooting commences, the quantity of water should be reduced, but during the critical period when the cuttings are callusing and preparing to root, large quantities of water should be used. I realize that in saying this I am going against the opinion of many reputable propagators, but I have proved, not once but many times, that, given good drainage, the system works.

### Taking Frozen Cuttings

How often have we heard that it is fatal to take wood from stock plants in the field when it is frozen? Time and time again have I been told this, and perhaps with some plants there is good reason, but it is not true of taxus. I should refer you again to the accompanying illustration. The cuttings pictured were removed from stock plants when the temperature was 10 degrees below zero, and within 20 minutes they had been gathered, made, treated and inserted in a bench of sand which was at a temperature of 70 degrees. Consistently through the winter of 1954 cuttings treated in this way rooted better than those which were held in storage for a few days to thaw out slowly and then be made up into cuttings. I am not suggesting that we should wait until temperatures drop to below

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Take used food cans; then take speedy *Ayer-Line* can tools from your nearest supplier.



**Handy-Man  
Multiple  
Can Punch**

Cuts four clean drainage holes at once and at very bottom of can's sides. Adjustable from quart to 5-gal. cans.



**Handy-Man  
Gripzit**

Grips one can or two; will carry two 5-gal. cans—if you will! Speeds replacement of sold items.

The  
*Nursery-famous*  
Four!

*Ayer-Line*  
Originals



16-in. Model



29-in. Model

## Two Redhead Can Shears

Use 29-in. model for fast nursery work. There's nothing to match this tool in durability and safety. Order 16-in. model for home gardeners, maintenance gardeners. Sells on sight. Good also on your delivery trucks.

## MOST JOBBERS NAMED ON MAP CARRY ALL FOUR OF THESE CAN TOOLS. KEEP MAP FOR FUTURE REFERENCE

Use your jobber's services to order or reorder. He always has stock to fill your orders for one unit or three dozen. He will NOT substitute imitations. He saves freight on large quantities, sharing this saving with you. His job, as ours, is to help YOU cut production and sales costs with *Ayer-Line* Can Tools. **Ask Him!**

**Ayer-Line INDUSTRIES, INC.**

**709 Jones St., BERKELEY 10, CALIF.**

Look for this *Handy-Man* symbol on our labels; it guarantees satisfaction.

Send for catalog on 1956 items: Nursery Shopping Carts, Hand Trucks, Dual-Wheeled Barrows.



zero before gathering our propagation wood, but do believe that if the material is handled with normal care, no harm can come from gathering, making and inserting cuttings promptly in this way.

### Overwintering New Cuttings

Overwintering, again, is an aspect of propagation which normally suggests considerable caution. We are told that a newly rooted cutting is susceptible to winter damage and must be treated with a special care.

Plunging cuttings in a deep frame or protecting them in some similar way is a standard instruction, essential for good results on many plants. To test this method on taxus the cuttings mentioned earlier, which were inserted in the greenhouse at the end of April, were lifted the first week in September and potted and then immediately plunged outdoors in a normal plunging bed. The cuttings were then covered with a 50 per cent lath shade and allowed to remain through the winter without

further protection. Our lowest recorded temperature was 15 degrees below zero, and yet when we checked the plants in the spring, without exception, those which had rooted well came through the winter without injury or loss. Cuttings which had been rooted without hormone treatments, i. e., the controls, which were lightly rooted, showed some evidence of winter injury, but in most cases the damaged roots were breaking out just inside the pot ball and the cuttings were obviously go-



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No. 1-W Pulley Type  
Tree Trimmer with  
compound lever action  
for ease of cutting  
large limbs. Available  
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and 16-ft. poles.

\$15.45 to \$19.50\*

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16-in. peg tooth blade, 7  
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be adjusted to suit oper-  
ator's position. Blade is  
ground to provide clear-  
ance and prevent binding.  
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½-pt. can (48 to carton).....	\$0.95
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Attractive display rack holds six ½ pts.  
5 pts., 4 qts. Fully stocked, costs but  
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tail value \$14.50. Refills in case lots at  
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ing to make normal growth. Those  
which had been well rooted in the  
fall as a result of strong hormone  
treatments came through the winter  
practically without loss. This is only  
one small test, and it certainly needs  
to be proved up by larger commer-  
cial application, but the indications  
are that a well-rooted taxus cutting  
is not so tender as we might think.

J. S. Wells

## TREE CIRCUS

Trees showing a bizarre growth,  
the result of either accident or pur-  
pose, have always attracted atten-  
tion. But not many of those found  
as isolated specimens can compare  
with the complicated designs of  
a group of manipulated trees which  
A. N. Erlandson, a 70-year-old re-  
tired farmer, has created near Santa  
Cruz, Calif. He calls his project a  
tree circus, and the specimens that  
are the result of 25 years' work in-  
clude many odd shapes.

The grove is located about six  
miles north of Santa Cruz, on State  
Highway 17. The visitor who enters  
the grove finds himself between four  
trees, in a 6-foot square, which have  
grown together into one tree above  
his head. A little deeper in the grove  
is located a "living chair" tree,  
shaped like an armchair. This crea-  
tion was started about five years  
ago by planting four balm of Gilead  
trees. The building of the armchair  
has continued since through graft-  
ing and interlacing.

Among the unique designs is  
a 15-foot arch, consisting of 10 trees  
at the base, these finally growing  
into one trunk many feet above the  
ground. Other unusual patterns for  
the visitor include a zigzag, a spiral,  
a ladder, a heart and a needle's eye  
with the stem growing back through  
the eye.

Mr. Erlandson uses various species  
of the sycamore, willow, box elder,  
ash, poplar and maple in building his  
unusual collection. Many of the  
trees are 25 years old, but numerous  
smaller ones from 2 to 9 years old are  
now being developed through graft-  
ing and the use of forming frames.

ANDREW K. SCHWARTZ is the  
operator of a retail nursery, Lynn  
Lowrey Nurseries, Inc., 3734 West-  
heimer, Houston, Tex., selling con-  
tainer-grown stock.

STARTING of a nursery at 972  
Thomas avenue, Rochester 17, N. Y.,  
has been announced by Gerald E.  
Kirchessner, who has been carrying  
on a landscape service at Rochester  
for several years.

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FEATHER TANKAGE. 17 per cent Am. ....	130.00

Write for Price List. Small Quantities.

ALLEN CO. PITTSBURY 3, N.J.



## STAN SAYS

## Vanguard Rose

Vanguard rose is a hybrid rugosa rose originated by G. A. Stevens, Harrisburg, Pa., and evidently brought onto the market by the Jackson & Perkins Co. in 1932. Thanks to my good friend, Melvin E. Wyant, Mentor, O., I became acquainted with this excellent rose some years ago. It should be handled as a pillar rose, as the strong stems grow to a height of 12 to 16 feet. As the stems are not strong enough, the owner should drive a strong post (or pole) near the rose, or better, train it on a tall, (2-story high) trellis. The flowers are fine for cutting for a glorious 1-day effect. Three inches in diameter, the lively pink blooms (with a touch of orange glow) are fully double with little fragrance. In cutting the rose, one should cut a branch having five buds or partially open blooms. These show off to a fine effect in a vase, and the shiny rugosa foliage of Vanguard makes an effective background for the handsome blooms. Vanguard blooms only once a year, but it is worth a place in the garden. In 1956 it was in full bloom June 6.

## Harison's Yellow Rose

Harison's Yellow rose came into bloom June 2 this year, and the beautiful, lively yellow, semidouble flowers were two inches across, had 22 petals and only slight fragrance. The bush can be kept to five feet in width. This rose blooms only once a year, but the rest of the time it makes a nice foliage shrub, and it does not require spraying or dusting. It has been around so long (since 1830) that most nurserymen take it for granted and do not even stock it.

## Rosa Hugonis

Rosa hugonis, golden rose of China, made a grand display of blooms at Melvin Wyant's, at Mentor, O., May 30, 1956. I think this rose should be used more often. The bush must be pruned and not allowed to sprawl.

JOHN W. NYSTUEN has started a retail nursery at Algonquin, Ill., and is growing evergreens on three acres.

EVERGREENS are included in a growing operation started recently by Mr. and Mrs. Eugene R. Keithley on Rural Route No. 3, Vandalia, Mo.

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*"the machine has more than lived up to our expectations"*

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# Production of Disease-Free Stock

By Raymond L. Self

When we speak of healthy plants we speak in relative terms only. A plant may never be absolutely healthy, but relatively speaking, it is healthy because it has all the appearances of being healthy, and we have to set up a yardstick when we talk about healthy plants. A plant can have a few nematodes in and on the roots and still be a healthy plant for all practical purposes. A plant can be healthy and yet have a starved appearance, because it is not given enough fertilizer. I am not going to talk too much about an absolutely healthy plant; I am going to speak more about the things that will kill the plant, such as viruses, fungi, nematodes and unbalanced fertilizer.

The nematode problem was discussed at some length when southern nurserymen met in Mobile a couple of years ago. For those not familiar with nematode damage, there are the usual root knot symptoms and other types of damage such as brown, discolored stubby roots. In the case of boxwoods, the outer portion of the roots will just slide off, and in that case the nematode has gotten into the root and is now going up and down the stem.

What are some of the reasons for growing disease-free plants? As I see it, if we start off with disease-free seedlings and liners, that is, those free from nematodes, fungus and virus, the plants will require less disease-control practice later. In other words if the seeds and the liners are treated and the trouble is eliminated to begin with, the grower will not have to worry much more. Disease-free liners insure healthier, faster growing plants, and the healthy, fast-growing plants have a lot of sales appeal. They command higher prices and build repeat sale orders. And last but not least, nursery regulations in many states are being revised so as to insure the sale of only healthy plants that are shipped into those states; this is especially true in the case of plants having nematodes. In the past two years, short courses on nematodes have been conducted in Alabama and in North Carolina and recently a commercially sponsored

short course was held. There will be about two short courses on nematodes a year. Everybody is becoming familiar with the problem, and it is also showing up in some of the nursery regulations. We therefore need to grow better plants for that reason.

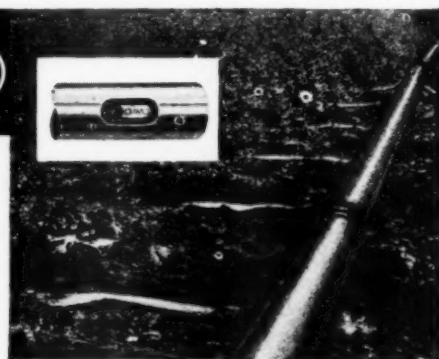
If one begins with diseased seeds, seedlings or liners, then it is hard to eliminate the problem. Seeds and seedlings should be treated with a fungicide, and after sprouting the seed or rooting the cuttings the grower should go through and remove diseased materials as he sees them. Most nurserymen remove diseased cuttings from their rooting beds, but few of them go out and check the seed beds. The diseased plants are left there, and each diseased plant is a center of infection, and the disease spreads to all surrounding plants. Diseased plants should be removed as early as they are observed, and watering in the seedbeds particularly should be controlled. That is, the plants should not be syringed but watered beneath.

Many of the leaf-spotting fungi are spread by splashing rain. This brings up the question of controlling spread of disease by rain. The best thing to do is to grow those plants under glass. There are coldframes for growing azalea liners and other liners under glass; so, seedlings may be grown under glass. Watering should be controlled and diseased plants pulled out before watering. Buy only the best seedlings and liners; there is no sense in buying the diseases.

## Use Sterilized Soil

When the seeds and seedlings are transplanted, they should be transplanted into sterilized soil for maximum growth. Even with sterilized soil there is still the chance of recontamination with nematodes or root rot in any number of ways, but the main way that some of these are spread is by uncontrolled drainage water. I have seen many lath houses where these clean seedlings and rooted cuttings are put out in sterilized

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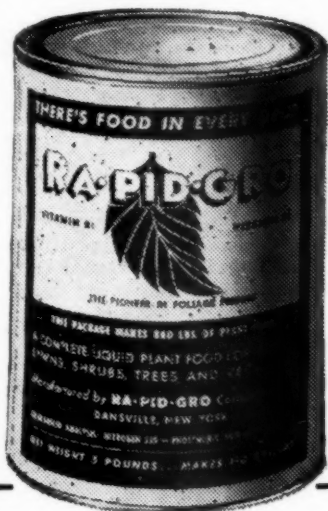
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Comments on the "Production of Disease-Free Nursery Stock," by Dr. Raymond L. Self, pathologist at the ornamental horticulture field station, Spring Hill, Ala., at a meeting of the Alabama Nurserymen's Association.

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You fellows will soon invest a lot of money digging, trimming and grading nursery stock. Holding it in your storage will cost a lot more money. But what a big percentage of those plants will only be good for the brush pile by next spring! Invoices for your late shipments will have "Sold Out" written all over them, while the brush pile eats up your profits.

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Soak the roots of your trees and shrubs before packing them in the bins in the storage. Then, after krauting them in, and before krauting roots on the sides, spray the kraut and roots with RA-PID-GRO.

You will find these trees will come out in the spring weighing the same as when you put them in. This means full cambium with plenty of vigor to start growing. Trees and shrubs not soaked in RA-PID-GRO showed from 10 to 30 per cent loss in weight.

Another important item is that if your stock will not peel at budding time, just spray it with RA-PID-GRO—1 pound to 20 gallons of water. Wet all foliage well. In 24 hours start budding and they will pop open for you. (It might take two feedings for some stock—if so, feed same amount next day.)

Write Tom Reilly for information on soaking your seeds in RA-PID-GRO before and after planting. More seeds germinate, start faster, make better growth.

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beds, and the drainage water is not controlled. If any part of that house received a heavy rain, there would be a good chance that the disease would spread over the entire lath house, because the drainage water is not controlled.

A third source of recontamination is really the hardest one to avoid of all of them. This is the recontamination from the unsterilized soil underneath. Methyl bromide or other chemicals do not sterilize subsoil, and root knot fungi do move up.

There are several methods of sterilizing the soil to eliminate the organisms. The best method is completely to sterilize the soil with heat or methyl bromide. Other chemicals will almost completely sterilize the soil but will allow a few things to get through. Crag 974 and vapam are chemicals that will control fungi and nematodes—those nematodes that are not down below the zone penetrated by the chemicals. But they will not control nut grass and possibly some other weeds.

### Nematode Control

For control of nematodes, there are nematicides; for sterilization to prevent root rot, there are several fungicides usable, such as the cop-

I am sure that all of you are farmers and formaldehyde.

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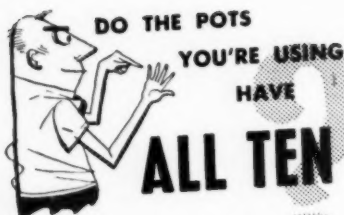


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miliar with methyl bromide fumigation and that you would like to use some of the newer materials. I am sure you have observed the increased growth of plants growing in fumigated soil, but I doubt whether you have thought what the actual benefits of sterilization are. The first benefits are the direct benefits you can see, control of the weeds and grasses and fungi in the top zone of soil.

Better plant growth is achieved also. Whenever any living matter is killed, plant nutrients are released, and all the nematodes, weeds and grass seed are turned into fertilizer. Good growth results also because all competition has been removed from those plants, and they are better able to utilize the increased nutrients in the soil. Methyl bromide provides these benefits. Vapam and Crag 974 are two new materials that will give the same benefits.

Crag 974 is a wettable powder that will give good weed and grass control, except on nut grass, with rates as low as 300 pounds per acre and probably less than that if the application is split. The wettable powder should be tilled into the soil and given a tight water seal. There should be a wait of approximately three weeks before planting, sometimes longer.

Vapam is a liquid and is applied with large quantities of water to drive it down in the soil. Sufficient water must be used quickly when using vapam. The Crag 974 does not have to be watered in quite so rapidly. Each has its place, each is experimental as far as some uses are concerned, and you should try some of these out.

If we are concerned with sterilization for nematodes only, we have several choices of materials. We can use materials that are used prior to planting. Some of the older materials must be used prior to planting; they cannot be used after planting. Two that can be used around the living plant are VC 13 and Nemagon, both of which materials are available and have been used considerably with nursery stock. I do not believe Nemagon has been used quite so much on many plants. Both these materials, however, will remain in the soil for some time after they have been put there. To fumigate fields prior to planting, Nemagon, DD or ethylene dibromide can be used. All those materials can be put out fairly easily, but pressure equipment is needed to do so. Some recent studies have shown that these materials can be put out on Terralite and even

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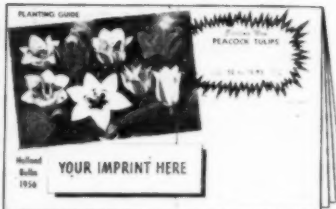
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I have been talking about field fumigation primarily, but the same materials can be used in lath houses and where plants are already growing. But if there is a severe nematode problem already on plants, root knot, for instance, Nemagon or VC 13 will kill all of the nematodes in the soil, but the knots will still be present. And when those plants are shipped to some states, they will be unacceptable.

That boils down to the prevention, instead of the cure, on some plants, especially when they must be sold soon after treatment. Over a long period of time, they could be cleaned up, and the root system would look fine, so that you could sell them. The best use of the two nematocides, Nemagon and VC 13, is in conjunction with vapam, Crag 974, heat sterilization or methyl bromide; these are used as a followup to give long-lasting protection.

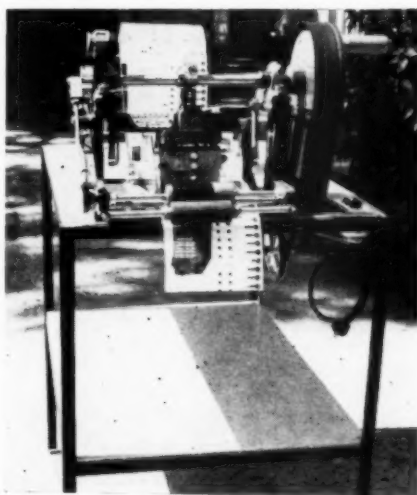
All nurserymen have the weed problem and want to use something to control weeds. Primarily, the nurseryman is interested in controlling the weeds and wants to knock out all these other things too. When these temporary sterilants are used, there is the problem of reinfestation, but reinfestation with nematodes can be avoided by using VC 13 or Nemagon.

Phytophthora root rot is second in importance to nematodes as a soil menace to our plants. This fungus that attacks the roots is known to attack at least 117 ornamentals, the majority of which are grown in our nurseries. This fungus is difficult to control because plants are easily infested with it. And many chemicals that can knock it out in the localized zone will not prevent it from coming back up from the subsoil area, as with nematode reinfestation. The fungus infestation can also be brought back in with drainage water and by cultivation implements.

#### Control of Root Rot

The root rot fungus can be controlled by all of these chemical soil sterilants: Methyl bromide, Crag 974, vapam, formaldehyde, copper compounds, although none of them will protect against reinfestation except the coppers. The coppers will remain in the soil for a greater period of time. They are usually used at the rate of one ounce to 10 square feet of soil. The coppers will not give 100 per cent protection. They are good but not foolproof.

In the past three years, I have



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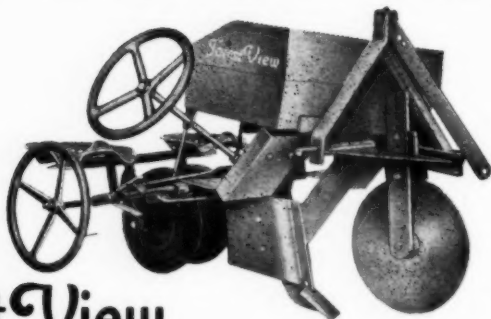
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noticed a lot of damping-off problems in the nurseries. During the past year, we cleared up this problem. We have a fungus on southern nursery stock which has been confused over the years with another fungus found in the north also. This is by far the most important fungus in the propagation houses and even in the lath houses in warm, wet weather. It attacks many hosts: Azaleas, gardenias, poinsettias, hollies and almost anything.

I do not know exactly how it can be controlled. I have screened practically every fungicide on the shelf at Spring Hill, and I have some new ones that look promising. Some of the old standard fungicides often give poor control of the fungus. The materials that have shown the most promise have been Phygon, Spergon, PMAS and Sunox.

Since chemical control is not entirely the answer, sanitation must be practiced also. This fungus lives both in the soil and on the plants, and it can be splashed up on the stems and the leaves in the watering process. It will overwinter in the greenhouse easily and will cause damping off both in the winter and in the summer, because it is unaffected in a wide temperature range. The best advice I can give for controlling this disease is to spray the plants before taking the cuttings, especially if the plants happen to be the ones affected by the fungus, and then take cuttings from only the upper part of the plant; dip them in fungicide and discard any that show or have leaf spots. When you clean out your greenhouse, spray it with copper sulphate or Spergon and really clean it well.

### Leaf-Spotting Diseases

The next phase of this discussion is on leaf-spotting diseases. Many plants have leaf-spotting diseases from the time that we procure the seedlings, and these diseases are carried over in the seeds. Plants of this type are magnolia, loquat, Photinia serrulata, aucubas, Cleyera japonica, Raphiolepis japonica, Arizona cypress, arborvitae, pines and many others.

Many of these diseases can be controlled by selection and by seed treatment. At the present time I am doing some seed-treatment work at Spring Hill. This type of work goes slowly, because maybe it is not the fungus that I think it is, and I do not know whether I am controlling it or not by seed treatment. However, on loquats, a 30-minute soak in Arasan or Captan gives a good control of the leaf spot. The best over-all treatment on magnolia



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has been with these materials, either by heavy soaking or a dust.

### Fungicide Dosage

I should like to emphasize one point, and that is that good seed treatments and good seed selection will usually eliminate the necessity of later spray programs. I have tried many different fungicides on the range of ornamentals that are grown in the Mobile area, mainly to find out what the plant could tolerate in high dosage rates of materials, and I can say that most of these materials can be used at a much higher dosage rate than the manufacturer recommends. There is no worry about burning the plants up, except when using some of the organic materials and some of the coppers.

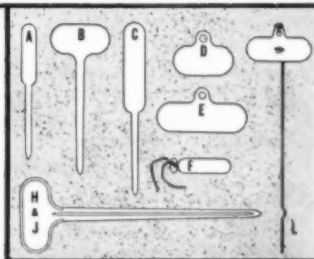
Which one of all the fungicides should be used to control the various diseases, I am not prepared to say. If I were a nurseryman, I should get something such as Captan or Zineb, and use it until I got into trouble, and then I should look around for something else; but I should have a spray program if my plants had any leaf spot.

During the past two years, trouble with container-grown plants has been called to my attention; it seems that this is a physiological problem.

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Many plants grown in black cans seem to get a root burn. I do not mean the entire group of plants, but many of them on the edge of the bed, on the side where the sun strikes them.

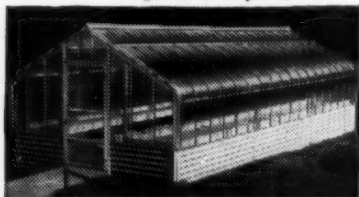
By removing the plants from the cans one can see that the roots often are killed and are actually cooked

by the sun. The black cans are 10 to 15 degrees hotter than the white or aluminum cans.

The green cans are about 10 degrees hotter than the lighter colored cans, and when the temperature goes over 100 degrees, root growth ceases. That fact has been known for a long time, and root growth in hot



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soil is slow if present at all. The problem could be solved by changing the color of the cans, by mulching around the cans or by reorienting the rows with the cans that are exposed to the sun. Hollies and mahonias might look burned with fertilizer, but it is a combination of the fertilizer and the high temperature that causes the trouble.

#### CANADIAN SHORT COURSE

[Continued from page 11]

time except during bloom and when young shoots are emerging, was recommended.

For new plantings of strawberries, Professor Olsen recommended SES, applied seven to 12 days after plants are set and before weeds emerge, with applications as needed after cultivation. SES must be applied before weeds emerge and is most effective when temperature is 65 to 80 degrees F. and the soil is moist. SES should not be on the soil at the start of runner rooting and for four to six weeks afterward. It should not be applied during fruit bud initiation and flowering and, on older plants, should be applied only before flowering and after harvest, avoiding periods of runner set and bud differentiation.

For control of fall and winter annual weeds in established strawberry plantings, before plants become dormant, SES may be used, as recommended on new plantings and 2,4-D may be used except during flower bud formation. For dormant plants, amine DNBP was recommended, to be sprayed on when weeds are small and temperatures in the range of 65 to 80 degrees F. The spray should not be applied to actively growing plants.

#### Propagation Methods

In his address on "Propagation Methods at the Montreal Botanical Garden," Paul Gagnon pointed out that the problems of propagating nursery stock are different in an institution such as a botanical garden from those encountered in commercial nurseries. In the botanical garden, the work is concerned with the propagation of a large number of different species or varieties of plants in limited quantity, while the nurseryman is interested in growing hundreds of specimens of a small number of different plants.

However, the responsibility of maintaining a collection of woody plant material that at present exceeds 2,000 species and varieties, Mr. Gagnon said, had led to experiments with various methods of



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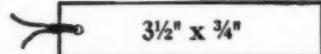
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propagating at the Montreal garden, and he thought that some of the methods were worth trying on a larger scale, with possible beneficial results to the commercial grower.

Various means of propagating conifers during the summer months were tried, instead of taking cuttings in the months of October and November, as is usually recommended. Work was carried out in outdoor frames equipped with thermostatically controlled electric cables to provide bottom heat. The general procedure followed consisted of covering the frames with sash, which were opened during the hottest part of the day to prevent the development of excess heat inside the frames. On extremely hot days, light syringing helped keep the temperature down and prevented loss of too much moisture from the cuttings. A double layer of cheesecloth or a layer of burlap was sufficient to reduce light intensity and prevent the cuttings from wilting. At the same time, the shading permitted the maximum light the cuttings could stand.

### Quick Rooting

It was found that in a few cases, roots originated on cuttings less than two months after planting in the frame. Mr. Gagnon suggested that the quick root development may result from the fact that plant tissues early in the season are still young enough to modify readily, and therefore callus and root formation proceed more rapidly. To successfully root such cuttings during winter in a greenhouse, great care must be taken to control light, temperature and humidity. With the summer rooting method, satisfactory control is easily achieved, and the whole procedure is much cheaper than winter greenhouse rooting.

The frame method of propagation is also a laborsaver, since the time necessary for rooting is reduced by several weeks. Mr. Gagnon said that because the cuttings are taken earlier and develop roots faster, almost a whole season may be saved in the production of good-size plants.

### Taxus Cuttings

Mr. Gagnon described rooting of *Taxus cuspidata* cuttings, planted in a frame during the first week of September. About 50 per cent showed good root development by the middle part of October, while the remainder had formed a callus. All cuttings were left in the frame over winter, covered with boards. At the end of March the frames were opened and bottom heat was provided for several weeks. By mid-May,

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all cuttings were well rooted and were transplanted into a coldframe to be left there for two summers.

Mr. Gagnon said that in several trials with cuttings of *Picea pungens compacta* Montgomery, taken in October and planted in a greenhouse at 60 degrees, none of the cuttings rooted. If cuttings were taken in early July, when annual growth was nearly completed and had become reasonably firm, they rooted readily, about 50 per cent having roots by the first week of August. Mr. Gagnon said that the best type of cutting consists of a new shoot with a short heel of the previous year's wood, planted without removing the bottom needles and without hormone treatment. At the Montreal garden, it has been found that the use of rooting hormones produces adverse results with all spruces.

Summer propagation of *Picea pungens Bakeri* also gave good results, though the percentage of rooting was a little lower, and was successful with several varieties or dwarf forms of *Picea excelsa*. So far it has proved impossible to root any cuttings of Koster blue spruce, Mr. Gagnon said. He recommended inarching as a fast, efficient and economical way of propagating Koster spruce.

*Thuja* and *juniperus* have been rooted successfully by summer propagation at the garden, roots of most species and varieties developing more rapidly than when late fall cuttings were used. Cuttings approximately six inches long gave better results than small cuttings, Mr. Gagnon said. Experiments with *Ginkgo biloba*, Mr. Gagnon said, led the Montreal staff to believe that a worthwhile plant cannot be produced when propagated by cuttings.

Mr. Gagnon described the successful propagation of *Metasequoia glyptostroboides*, discovered in China about 10 years ago. Dormant cuttings of this tree, from wood formed during the previous year, were taken in February and planted in a cool house at a temperature of 40 to 42 degrees, with bottom heat of 50 degrees. The planting medium was a mixture of two parts sand and one part peat moss and the cuttings were dipped in Auxan. Nearly 100 per cent of the cuttings were rooted by mid-May.

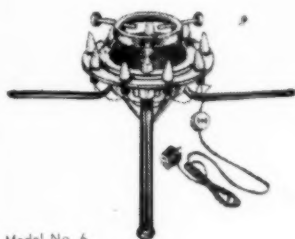
Prof. R. Goodwin-Wilson, Ontario Agricultural College, Guelph, brought the nurserymen up to date on the subject of "Fertilizing Container-Grown Nursery Stock." Henry Teuscher, curator of the Montreal Botanical Garden, showed the



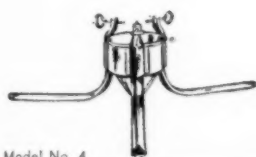
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The following aspects were given as important to anyone going into garden center or sales station business: Capital, location, attraction and good administration and merchandising.

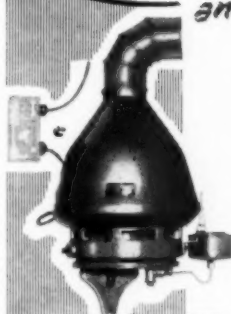
One should make a preliminary survey of the buying potential in the community considered, the speaker continued. The traffic trend should also be studied. One should look for a place outside the city limits where land is relatively cheap and buy more than just enough for the business. People who will go out of their way to buy plants and gar-

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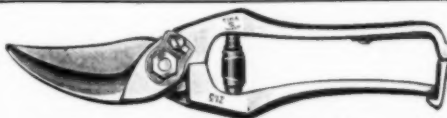
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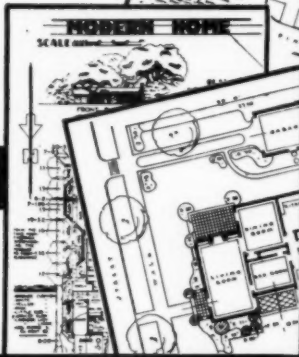
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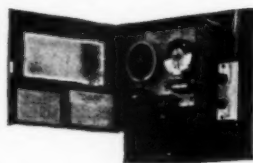
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dening equipment are the ones who will make the best customers, it was said.

Adequate parking space, attractive window displays and pleasing grounds surrounding the store attract customers, it was stated. Let a customer and family wander about the establishment; if the parents do not find anything to buy, the children will. Give customers the impression that the sales station is a center for specialists and create a pleasing atmosphere.

Good administration includes good finance. One should not swallow more than can be digested. Both buying and selling stock are important. Permanent customers are made through giving quality merchandise and good service, with courtesy.

Sales that are worked for by interesting the customer in products other than those he went to the store to purchase are the ones that mean success and expansion, the speaker declared. It is also important to keep the number of customers increasing.

Sales can be promoted by telephoning persons known to be in need of merchandise sold at the sales station. One should not mislead in advertising, but use it effectively and continuously. Sales can be lost though poor displays, lack of knowledge of the merchandise, lack of sales imagination and failure to overcome objections as to the suitability or price. Good salesmanship requires constant training; it is not a hit-and-miss affair.

### Landscape Value

In an address "The Value of Landscape," Louis Perron, B. L. A., Montreal, Que., reviewed some of the history of the art of landscape endeavor, cited some of the current trends and needs and injected a philosophy for town and city planning in which landscape practice and gardening held a major role.

Mr. Perron emphasized urban planning in the interests of all people, for all time and for all tastes. Regional planning commissions can play an important part in this work. Rubber stamp subdivisions, with repetitive house and yard plans, the speaker suggested, cater to but one class of society and in time might lead to the type of segregation that endangers social stability.

The beautification and adequate maintenance of public properties is one way to encourage private efforts to increase comforts and conveniences by property improvement, Mr. Perron pointed out. The grounds, no less than the home they



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surround, should reflect individual tastes and interests. Opportunities for variation in planting exist in the treatment of sidewalk approaches, use of terraces and banks, foundation plantings and plant selections. But planning, which can avoid costly mistakes, is a question of know-how.

Today's developments that call especially for the skill of the landscape man include highway and speedway building, demands for athletic fields and public gardens, continued municipal growth, airport expansion and increasing private ownership of homes. To meet these opportunities, the speaker said, there should be more training of landscape workers. Their important task will be to discover what garden arrangement people want and then assist them to obtain it.

### Nurserymen's Debate

On the lighter side, perhaps, but at the same time highly informative, was a debate "Resolved that regular nursery sales outlets can compete with chain and department store selling of nursery stock," which captured the imagination of the nurserymen and provoked hearty laughs.

Although Donald McConnell, Mc-

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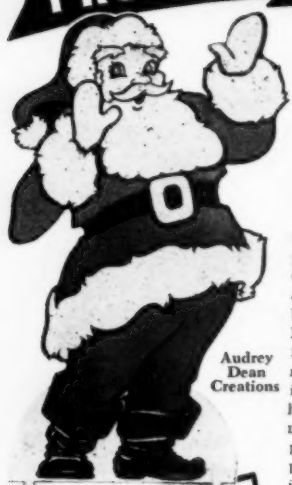
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Connell Nursery Co., Port Burwell, Ont., and Bill Christensen, Linbrook Nurseries, Oakville, Ont., for the negative, put up a remarkable verbal battle, maintaining that the chain and department stores were moving in on the regular nursery sales outlets, grinding the nurseryman to the ground, the judges decided for the affirmative team of Glen Peister, Chicopee Garden Center, and Elmer Banting, H. C. Downham Nursery Co., Strathroy, Ont., who proved their case beyond any shadow of a doubt.

Murray Peart, of the Ontario Agricultural College, Guelph, acted as chairman for the debate. By a show of hands from the audience, it was decided to have more debates on subjects of interest to nurserymen at future meetings and conventions in preference to panel discussions.

#### Landscape Tour

The Quebec Landscape Gardeners and Nurserymen's Association acted as hosts for the occasion and arranged a bus tour for the nurserymen on August 10 that took in several industrial landscaping projects in the Montreal area.

Included in the tour was a noon-time stopover at the sales station of W. H. Perron & Co., where, after a buffet luncheon, the nurserymen were taken on a tour of the firm's sales station, nursery and trial plots.

The main tour then moved on to Montreal's famed Botanical Garden, where the nurserymen were conducted through most of the 200-acre grounds, after which the hosts provided a much appreciated tea in the main building of the Botanical Garden.

#### GARDEN CENTER OPERATION

[Continued from page 13]

One of the most difficult problems you will encounter if you grow your own nursery stock is what to produce and how much. First you will have to decide what varieties to grow and how many of each. This will not be so difficult if the items can be produced in one growing season, such as certain perennials and a few kinds of shrubs. You can base your production figures on your previous season's sales of such items. But when it comes to trees, shrubs and evergreens that require several years to bring to merchantable size, your problem becomes much more complicated.

Let us suppose that you sold 500 Pfitzer junipers of various sizes last year and you have decided that you want to grow your own Pfitzers.

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Since three or four years are required to bring Pfizer junipers to marketable sizes, you must estimate how many you will be selling three or four years hence. Are your sales on this item increasing or getting smaller? Is the trend of the demand toward larger or smaller sizes, what percentage of those you plant will survive and how many of each size will there be at the end of three or four years? Can you be sure that the demand will continue its present trend?

### Future Variable

If you have a backlog of sales experience you may be able to answer some of these questions intelligently, but if you are new in the business you will have to guess. The longer it takes to produce the nursery stock, the more difficult it becomes to forecast the demand that can be expected when the plants come on the market.

It can readily be seen that if the demand for Pfizer juniper should fall off while you are growing your stock you might come up with a surplus. That very thing often does happen from time to time with certain items of nursery stock. You may have to dispose of your surplus stock at cut prices, if you are able to sell

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it at all. On the other hand, unfavorable growing conditions might result in your having a short crop of Pfitzers, as well as undersize stock. Even though you are able to sell all of the plants at normal prices, your income from them will not be equal to what it would have been with a normal crop or a normal market. In short, you are always running the risk of producing a crop that does not fit market conditions at the time the stock is harvested.

It is not safe to assume that the garden center can produce its nursery stock as cheap as or cheaper than it can be purchased. It is reasonable to conclude that the wholesale nurseryman who not only has the facilities, equipment and know-how to produce nursery stock but benefits from the economies of large-scale production can grow it cheaper than the small-scale producer.

In actual practice, the garden center operator who grows his own nursery stock is the exception. Usually he is a nurseryman who has been producing his own stock and has set up his garden center as an additional outlet for his products. More often than not, the garden center is under management separate from that of the nursery. This not only divides the responsibility, but makes it easier to determine whether or not each department is operating profitably. Under such a setup, all nursery stock supplied to the garden center is charged to the latter.

Those who want to grow some of their own nursery stock but have only a limited area adjoining the garden shop find they get best returns from growing stock that is expensive to ship, such as evergreens and the larger shade trees that have to be balled and burlapped.

A little well cared for nursery stock growing near the garden center makes a good impression on the public. To many folks a nursery is merely a corner lot with some trees and shrubs planted on it. If possible, some of the rows should be planted near the road or highway, so they can easily be seen by the passer-by, and preferably at right angles to the road, so more stock will be visible.

Remember that even a small quantity of nursery stock will require care. Neglected stock growing in the vicinity of the garden center can be a liability instead of an asset. It will make an unfavorable impression on the customer, and he is likely to conclude that the nurseryman is a careless operator, offering poor merchandise.

In operating a garden center, as

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This sign is a part of the new marking system developed by Growers Sign Service, being used by Frank's Garden Center, Akron, Ohio, to see that his customers get complete and accurate plant information.

Many retail nurserymen are finding they can protect their good name and insure a growing business with an ever-expanding list of satisfied customers by using a new marking system developed by Growers Sign Service. This system provides signs which tell the customer whether a plant is deciduous or evergreen—if it is hardy—how high it will grow—when it will bloom and the color of the flower—whether it has

berries—also the exposure and soil conditions under which it will grow best.

These nurserymen have found that planting instructions and technical information given by word of mouth are often misunderstood by the customer. He takes the stock home and plants it in the wrong kind of soil or in a place where it gets too much or too little sun. It fails to grow as it should. The customer feels he has bought inferior stock. He comes in to complain or, what is even worse, says nothing and goes somewhere else to buy. Thus a good customer is lost and the business suffers by just that much.

More and more progressive nurserymen are installing the Growers Sign Service marking system in order to make sure that their customers are always accurately informed, thus insuring their reputation for dependability.

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Reliable information on how to sterilize soil with efficiency and economy. Makes precision sterilizing possible for the professional and the home gardener.

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in any other business, one has to figure out how to earn the greatest return on his investment. It might be well to invest any additional capital he has at his command in expanding his selling facilities rather than in production. One who is experienced, trained or gifted in selling probably will do better for himself financially if he confines his efforts to selling. Selling, as a rule, is more remunerative than production.

Buying nursery stock has many advantages over growing it. One who buys his nursery stock for retail sales can base his purchases on his sales for the previous year, making allowance for a reasonable increase. The trend to or from any given variety is slight in one year. It is much easier to maintain a balanced assortment of varieties and sizes, because one can buy exactly what he needs. No crop risk is involved, and if it should happen that certain items are not available, due to crop failure or other cause, there is no investment in such stock to be lost. When one buys his nursery stock he knows exactly what it costs him; he can therefore price it intelligently. This is not true when he grows his stock, because the cost is unknown.

Capital invested in the production of nursery stock is tied up from two to 10 years, but when it is used to buy nursery stock it can be turned over every year, part of it oftener. Thus it is possible to earn a greater profit on the same investment. Garden center operators should strive at all times for more frequent turnover. The more rapid their turnover, the smaller the markup that is necessary and the more highly competitive they can be.

LOUIS K. MILLER, P. O. Box 591, Winston-Salem, N. C., has begun the planting of evergreen shrubs on seven acres for eventual retail sale.

BACHMAN'S, INC., Minneapolis, Minn., won one of the landscaping competitions at the recent Minnesota state fair, with a Hawaiian beach scene.

J. J. PINNEY, of the Willis Nursery Co., Ottawa, Kan., recently returned from a two and one-half weeks' trip east to attend the wedding of his son.

ROBERT L. PERRY recently opened a new retail nursery and garden shop, Sunset Nursery's Garden Shop, at 3856 Britton plaza, Tampa, Fla. The location is in one of the state's largest shopping centers.

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it at all. On the other hand, unfavorable growing conditions might result in your having a short crop of Pfizers, as well as undersize stock. Even though you are able to sell all of the plants at normal prices, your income from them will not be equal to what it would have been with a normal crop or a normal market. In short, you are always running the risk of producing a crop that does not fit market conditions at the time the stock is harvested.

It is not safe to assume that the garden center can produce its nursery stock as cheap as or cheaper than it can be purchased. It is reasonable to conclude that the wholesale nurseryman who not only has the facilities, equipment and know-how to produce nursery stock but benefits from the economies of large-scale production can grow it cheaper than the small-scale producer.

In actual practice, the garden center operator who grows his own nursery stock is the exception. Usually he is a nurseryman who has been producing his own stock and has set up his garden center as an additional outlet for his products. More often than not, the garden center is under management separate from that of the nursery. This not only divides the responsibility, but makes it easier to determine whether or not each department is operating profitably. Under such a setup, all nursery stock supplied to the garden center is charged to the latter.

Those who want to grow some of their own nursery stock but have only a limited area adjoining the garden shop find they get best returns from growing stock that is expensive to ship, such as evergreens and the larger shade trees that have to be balled and burlapped.

A little well cared for nursery stock growing near the garden center makes a good impression on the public. To many folks a nursery is merely a corner lot with some trees and shrubs planted on it. If possible, some of the rows should be planted near the road or highway, so they can easily be seen by the passer-by, and preferably at right angles to the road, so more stock will be visible.

Remember that even a small quantity of nursery stock will require care. Neglected stock growing in the vicinity of the garden center can be a liability instead of an asset. It will make an unfavorable impression on the customer, and he is likely to conclude that the nurseryman is a careless operator, offering poor merchandise.

In operating a garden center, as

## More Trees... Better Stands

**NEW DRUG HELPS CONTROL  
DAMPING-OFF, GIVES AS MUCH  
AS 100 PER CENT PROTECTION**

The drug that has proved so highly and uniformly effective is SUNOX. College-tested and field-proved over a period of years, SUNOX is now widely used as a standard procedure in preventing Rhizoctonia-caused diseases. A soil fungus, Rhizoctonia solani, ranks as a major agent of damping-off in seedbeds and in cutting benches. It attacks liners in the field and mature plants and shrubs in the homeowner's garden.

"We applied SUNOX in a test for control of pre-emergence damping-off on both black and white spruce. Damping-off killed 75 per cent of the seedlings in the control bed, 50 per cent in the recommended treatment and less than 10 per cent in double the recommended measure," reported a large grower in the midwest.

"A marked reduction in the mortality of the small trees was noticed immediately after application of SUNOX," another large grower in the south reported. "We made three applications on the affected areas with significantly good results."

### ECONOMICAL!

1 lb. of SUNOX makes 320 gallons of treating solution at a cost of 2c per gallon and less. 1 gallon will treat 8 sq. ft. of rooting medium or 4 sq. ft. in the field. Write for prices and literature.



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## HYPONEX PLANT FOOD

Grows Better Plants Faster  
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**SELL HYPONEX** for extra profit. Nationally advertised. Millions are now buying it for house plants, garden flowers, vegetables, lawn . . . **USE HYPONEX** for top dressing, seedlings, cuttings, transplanting and general feeding of plants. Produces sturdier stock in less time.

Retail Price	Dealer & Grower Cost
1-oz. pkt. 10¢—72 to cs. wt. 7 lbs.	\$ 4.80 case
4-oz. can 25¢—36 to cs. wt. 12 lbs.	\$ 6.00 case
7-oz. can 50¢—24 to cs. wt. 14 lbs.	\$ 8.00 case
1-lb. can \$ 1—12 to cs. wt. 16 lbs.	\$ 8.00 case
10-lb. drum \$ 8—individually packed	\$ 5.33 each
25-lb. drum \$15—individually packed	\$10.00 each
50-lb. drum \$25—individually packed	\$16.67 each
100-lb. drum \$40—individually packed	\$26.67 each

1 lb. makes 100 gallons liquid plant food.

If Your Jobber Cannot Supply You, Order Direct.

**HYDROPONIC CHEMICAL CO., Inc., Copley, Ohio, U.S.A.**

## NURSERY TAGS "Weather Resistant"

Size 1½x8 ins.	Prices per 1000—Tax Stock
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50,000 to 100,000	1.00
100,000 to 200,000	1.00
200,000 to 500,000	1.00
500,000 to 1,000,000	1.00
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in any other business, one has to figure out how to earn the greatest return on his investment. It might be well to invest any additional capital he has at his command in expanding his selling facilities rather than in production. One who is experienced, trained or gifted in selling probably will do better for himself financially if he confines his efforts to selling. Selling, as a rule, is more remunerative than production.

Buying nursery stock has many advantages over growing it. One who buys his nursery stock for retail sales can base his purchases on his sales for the previous year, making allowance for a reasonable increase. The trend to or from any given variety is slight in one year. It is much easier to maintain a balanced assortment of varieties and sizes, because one can buy exactly what he needs. No crop risk is involved, and if it should happen that certain items are not available, due to crop failure or other cause, there is no investment in such stock to be lost. When one buys his nursery stock he knows exactly what it costs him; he can therefore price it intelligently. This is not true when he grows his stock, because the cost is unknown.

Capital invested in the production of nursery stock is tied up from two to 10 years, but when it is used to buy nursery stock it can be turned over every year, part of it oftener. Thus it is possible to earn a greater profit on the same investment. Garden center operators should strive at all times for more frequent turnover. The more rapid their turnover, the smaller the markup that is necessary and the more highly competitive they can be.

LOUIS K. MILLER, P. O. Box 591, Winston-Salem, N. C., has begun the planting of evergreen shrubs on seven acres for eventual retail sale.

BACHMAN'S, INC., Minneapolis, Minn., won one of the landscaping competitions at the recent Minnesota state fair, with a Hawaiian beach scene.

J. J. PINNEY, of the Willis Nursery Co., Ottawa, Kan., recently returned from a two and one-half weeks' trip east to attend the wedding of his son.

ROBERT L. PERRY recently opened a new retail nursery and garden shop, Sunset Nursery's Garden Shop, at 3856 Britton plaza, Tampa, Fla. The location is in one of the state's largest shopping centers.

## SIGN LANGUAGE

Facts, ideas and sales-promotion hints gathered firsthand from nurserymen everywhere!

### NEW MARKING SYSTEM HELPS RETAIL NURSERYMEN PROTECT THEIR REPUTATION FOR INTEGRITY



This sign is a part of the new marking system developed by Growers Sign Service, being used by Frank's Garden Center, Akron, Ohio, to see that his customers get complete and accurate plant information.

Many retail nurserymen are finding they can protect their good name and insure a growing business with an ever-expanding list of satisfied customers by using a new marking system developed by Growers Sign Service. This system provides signs which tell the customer whether a plant is deciduous or evergreen—if it is hardy—how high it will grow—when it will bloom and the color of the flower—whether it has

berries—also the exposure and soil conditions under which it will grow best.

These nurserymen have found that planting instructions and technical information given by word of mouth are often misunderstood by the customer. He takes the stock home and plants it in the wrong kind of soil or in a place where it gets too much or too little sun. It fails to grow as it should. The customer feels he has bought inferior stock. He comes in to complain or, what is even worse, says nothing and goes somewhere else to buy. Thus a good customer is lost and the business suffers by just that much.

More and more progressive nurserymen are installing the Growers Sign Service marking system in order to make sure that their customers are always accurately informed, thus insuring their reputation for dependability.

For further information about this unique marking system, write to Growers Sign Service, Dept. AN-2, Tallmadge, Ohio.

**YOU will INCREASE your SALES with...**  
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Write for complete information

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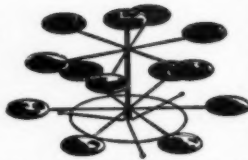
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# New Crab Apple Introduction

*By J. C. McDaniel*

Prairie Rose is the name now chosen for a superior double-flowered clone of *Malus ioensis*, originated as an open-pollinated seedling by the department of horticulture, University of Illinois, Urbana. It has already been in commercial propagation under its trial designation, Illinois 825 O.P.S. It appears to have advantages over the well-known Bechtel clone of this species in flower color and form and somewhat greater disease resistance of the tree. Flowering a few days later than Bechtel, it is one of the latest to flower of ornamental crab apples. It matures no fruit.

The seed parent of Prairie Rose is a single-flowered *M. ioensis* (No. 825) which was received by the late Prof. Charles S. Crandall in 1908, as scions from the Arnold Arboretum. Its original source is unknown. At the same time Professor Crandall received *M. ioensis plena* (Bechtel clone), which had been introduced by E. A. Bechtel's Sons, at Staunton, Ill., a few years previously, and to which Crandall gave the number 826. These two were set in the same orchard in 1910 and were the only two *M. ioensis* clones there, so it is probable that Bechtel was the pollen parent of a number of open-pollinated seedlings later grown from fruit of No. 825. The one now named Prairie Rose was selected as the best of these and has been perpetuated in orchard and campus plantings at the University of Illinois for many years.

Illinois 825, according to Crandall, has five petals per flower; the "buds are globular, deep pink; as flowers open the petals fade somewhat, but remain pink." In other *M. ioensis* clones, including Bechtel, the pink is lighter and open flowers are more nearly white. Prairie Rose also retains good pink color after opening, being more pink than Bechtel at all stages of development. Its petals in 1956 ranged from 17 to 25 per flower, compared with an 18 to 28-petal range (average, 23) as observed by Crandall in 14 flowers of the Bechtel. The Prairie Rose has petals somewhat more waved and curled than those of Bechtel and slightly shorter. Its fragrance is typical of the best native crab forms, somewhat roselike. Like Bechtel, it

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### ROYAL SCOTCH PINE } 800 trees per carload RED PINE }

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may fail to open its later flowers when injury by thrips is serious, so it should benefit from a pre-bloom insecticide application.

### Tree Similar to Seed Parent

The tree of Prairie Rose seems similar to that of its seed parent, the *M. ioensis* clone Illinois 825, and the Bechtel clone was described by Professor Crandall (in Ill. Agr. Exp. Sta. Bul. 275) as having trees indistinguishable from *M. ioensis* (825) when not in flower. The largest of four Bechtel trees in the orchard for 14 years "was 16 feet four inches high, had a spread of 15½ feet, and a trunk diameter of 5.5 inches." The most vigorous tree of No. 825 at the same age was "symmetrical, round topped, somewhat spreading; height 19 feet two inches; spread 19 feet five inches; trunk diameter 6.6 inches." Bechtel trees had "formed rounded, spreading, symmetrical crowns with numerous branches pushing obliquely upward." The tree of No. 825 now in the university planting and several young Prairie Rose trees have less numerous and somewhat more widely spaced scaffold limbs, compared with Bechtel, and a generally more informal habit of growth. Less apple scab is seen in the foliage of Prairie Rose and No.

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825, and this may be one reason why their lower branches remain healthy longer than those of Bechtel under conditions at the university. All three clones are susceptible to cedar apple rust and will need spraying if planted near susceptible red cedars.

At Urbana, where occasional fruits are borne on the Bechtel crab, Prairie Rose has been entirely unfruitful. Some fruits have started, from both open and controlled pollination, but none survived the June drop.

Prairie Rose at Urbana has been grafted and budded on common apple seedlings, with about the same amount of understock sprouting as noted with other native crabs on this stock and less than with dwarf

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Limited amounts of Prairie Rose budwood are available from the University of Illinois, department of horticulture. The Simpson Orchard Co., Route 1, Vincennes, Ind., is the principal wholesale nursery source in 1956.

HENRY WICKS, a wholesale produce farmer, is enlarging a planting of nursery stock on his farm on Moriches road, St. James, L. I., N. Y.

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## BOOK REVIEWS

### QUEEN ANNE'S GARDENER

Henry Wise, who lived from 1653 to 1728, partner in a 100-acre nursery at Brampton Park on land now occupied by the South Kensington museums, became famous and affluent as the designer and planter of several royal palace grounds in Queen Anne's reign. His was the age of formal gardens, the last of that age, before the era of naturalism in English gardening gave fame to others.

His success enabled Wise to acquire a coat of arms and a landed estate, Warwick Priory, which 200 years later so suffered from time and the wartime income tax that it was advertised in a demolition sale, when a wealthy American couple purchased the building, whose stones, bricks and timbers were shipped to this country to house the exhibits of the Virginia Historical Society at Richmond.

When engaged in other research at the British Museum, David Green became interested in Henry Wise's career and has since spent much time in research on the documents that would reveal data on it. The results is an engaging book, "Gardener to Queen Anne," subtitled "Henry Wise and the Formal Garden," published by the Oxford University Press, at \$11.20. This is a large and handsome illustrated volume, which pictures the era and the man by means of the mirror of the writers and documents of that day. The comments of landscape designers and critics contemporary to Wise give the book added interest to a student of gardening, while the historical picture is presented in a fascinating manner.

### WINDOW-BOX GARDENING

In "Window-box Gardening," Henry Teuscher devotes an 180-page book to a subject hitherto given but a few pages in a volume on house plants or general gardening, and he does it so well that one wishes there were more pages in the book.

The construction and materials of window boxes, their planting and care and the production of plants from seeds and cuttings for this purpose are detailed in opening chapters. After discussion of unusual plants used in window boxes and the allied containers such as tubs, urns

and hanging baskets, 54 pages are given to descriptions and comments on plants suitable for growing in boxes, in alphabetical order by botanical names. Appendices furnish further recommendations.

The book is not only a precise guide for the housewife or her husband engaging in window gardening, but is also a valuable source of information and suggestions to the florist or the garden center operator who supplies window boxes or plants to be grown in them.

Henry Teuscher has been curator of the Montreal Botanical Garden since 1937, serving previously in several similar institutions in this country. The book is the result of 10 years' experimentation, plus observations in a Montreal window-box competition under the chairmanship of Mr. Teuscher. Published by the Macmillan Co., at \$3.95, the book is illustrated by several line drawings and 20 plates, each of several photographs, of planted boxes and plant materials.

#### GUIDE TO ROSES

Half of the 288 pages of "The Guide to Roses" are devoted to brief descriptions of modern roses, over 1,350 in all, grouped in chapters by type — hybrid tea, floribunda, climber and rambler, shrub and polyantha and miniature. The remaining chapters are on phases of culture, exhibiting, societies, continental trial grounds, etc.

The author, Bertram Park, is vice-president of the British National Rose Society and editor of its publications. As his present garden contains 3,000 roses, his qualifications as a mentor on rose growing are obvious. While the book was originally published in England, the author shows his acquaintance with American conditions and methods. The author is an expert photographer, and the 64 color plates, mostly from his prints, with 16 from paintings by others, are an impressive feature of the book, which is being issued in this country at \$5.95 by D. Van Nostrand Co.

#### FRUIT CROP DISEASES

"Diseases of Fruit Crops," by Harry Warren Anderson, professor of plant pathology at the University of Illinois, is a comprehensive study of the subject, the author's aim having been to collect and evaluate the great store of information on fruit diseases that has accumulated as the result of research and practice during the past 50 years. The work was

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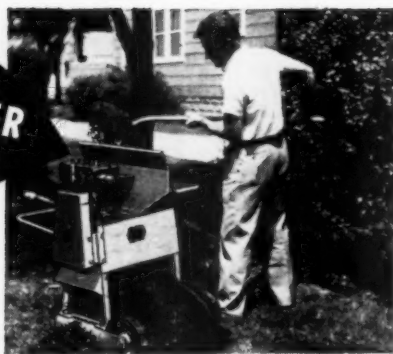


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designed to bring together in one usable, up-to-date volume the extensive material previously available only in scattered, small publications such as those of state experiment stations and the United States Department of Agriculture or articles in scientific journals.

Written for practicing horticulturists as well as for research workers and teachers, the book was published by McGraw Hill Book Co., Inc., at \$8.50, as one of its publications in the agricultural sciences. It treats primarily of diseases of cultivated fruit crops in the temperate zone of the United States and Canada. Diseases attacking fruits grown in other parts of the world, but not in North America, are dealt with at length only if they are a major problem in the countries concerned. Diseases of citrus and subtropical fruits are not included in the study.

The diseases are discussed according to their hosts: Pome fruits; stone fruits; brambles; grapes; bush fruits, and strawberries. There is a brief discussion of cranberry and blueberry diseases. Diseases are treated in the order of their importance. The history; geographic distribution and economic importance; symptoms; causal organism and its morphology; disease cycle, and control methods of each are discussed. Inclusion in the book of recent advances in plant pathology, for instance, in virus diseases, and new control methods lend special value to the text. Illustrations, from photographs, in the 501-page book show symptoms appearing on the diseased host rather than the causal organism itself. A list of selected references pertaining to a specific disease is appended to the section of the book discussing that disease.

EDWARD MALLONEN, chief landscape architect for the county planning commission, Milwaukee, Wis., will conduct an 8-week course in landscaping, at Milwaukee's new Y.M.C.A. building, beginning October 1.

PUBLIC interest in its arboretum project was promoted at the state fair by the Minnesota Horticultural Society through a quiz on shrubs, trees and perennials shown in pictures and as specimens in a booth.

MAY NURSERY CO., Yakima, Wash., is establishing a new retail salesyard between Third and Fourth avenues on C street. The former location at C street and Third avenue will be converted into a landscaping and storage project.

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## ATOMIC AIDS VS. INSECTS

A Department of Agriculture official reported recently that atomic science is helping to counteract the "secret weapon" some insects are now using against man and his crops—their ability to develop resistance to poisonous insecticides.

Radioactive tracers are revealing precisely how some insects are able to consume these poisons and change them into relatively harmless chemicals inside their bodies. Better understanding of the insects' biochemical defenses will help entomologists find new and more effective insecticides to use against resistant species.

Dr. H. L. Haller, of the United States Department of Agriculture's agricultural research service, gave

the conference on radioactive isotopes in agriculture, meeting at East Lansing, Mich., a roundup of various new weapons and modes of attack against insects based on research with radioactive materials.

He described how radiation has been used to make certain insects unknowingly commit race suicide, how the paths of insects—even those beneath the soil or under the bark of trees—can be followed with Geiger counters and how radioactive tracers help reveal the migratory and overwintering habits of insects and aid in making accurate population counts, essential in planning control measures.

Radioactive tracers also make possible more efficient methods of applying insecticides, Dr. Haller said, and

modes of penetration can be studied. Tagged systemic insecticides can be traced as they are absorbed by plant materials, translocated within the tissues and later transmitted as poisons to insects.

Dr. Haller described the successful campaign, completed in 1955, for eradication of screwworms from the Caribbean island of Curacao. U. S. D. A. scientists saturated the wild population of screwworm flies on Curacao with many thousands of laboratory-reared male flies made sterile by exposure to gamma rays from radioactive cobalt. The sterile males were spread by airplane. Since the female flies mate only once, they were soon laying only non-fertile eggs. In a short time, the island's screwworm population disappeared.

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## ABSTRACTS OF RECENT RESEARCH

### BREAKING SEED DORMANCY

The 1956 "American Rose Annual," publication of the American Rose Society, carries an article reviewing the literature of chemical breaking of dormancy on various plant materials and the work on this subject carried on by the Jackson & Perkins Co. breeding station at Pleasanton, Calif. The article is by Dennison Morey.

Many mild treatments such as slight scarification, soaking with vinegar or formic acid, and similar materials are of great value with some seeds, but the rose appears to need a severer treatment. A screening of suggested materials that were not too difficult to obtain or too dangerous to use is reported below.

**Sulphuric acid:** Seeds were soaked 1, 5 and 20 minutes with both concentrated and 50 per cent sulphuric acid, washed and planted. None germinated. Check seeds had a germination percentage of 24 per cent plus 4 per cent lost by damping-off. Each batch contained 200 seeds of the same genetical origin. These treatments were apparently too severe.

**Ether:** 5 c.c. of ether per 250 c.c. space was liberated in a closed container in which rose seeds were exposed 12 and 24 hours. Differences were slight. The 12-hour treatment gave some speeding up of germination, but no increase in percentage. The 24-hour treatment somewhat reduced total germination, but not importantly.

**Chloroform:** Seeds exposed to vapors for the same durations and at the same concentrations as with ether. No effect was shown on germination.

**Thiourea:** Seeds soaked six hours in 0.5 per cent solution. Germination appeared to be hastened, but final germination percentage was not altered.

**Formic acid:** Seeds were soaked for 10, 20 and 30 minutes in a 0.02 per cent solution. There was no effect from the treatment, but it was not repeated with stronger acid because of results of other tests with different acids.

**Diastase:** Seeds were soaked at 80 degrees Fahrenheit in a supersaturated diastase solution. Early tests responded impressively, so further replicated tests were made. In all

cases the controls germinated first and with better percentage of germination. There is indication, however, that diastase may be beneficial with seeds picked green.

**Hydrochloric acid:** Seeds were soaked 1, 4 and 18 hours in 0.2N HCl solution. The 18-hour soak greatly suppressed germination. Initial germinations were extremely different, depending upon the length of treatment, but seeds that germinated later (six months after sowing) were not affected by the treatment. It was therefore concluded that the seeds with thick pericarps were not affected, but those with thin pericarps might be helped or injured by the acid soak, depending on how quickly the acid was able to get into the seeds. This treatment was not recommended because of possible damage to valuable seeds.

**Live yeast cultures:** Samples of seeds were soaked from 1 to 3 days in aerobic and anaerobic yeast cultures. Results were the same as with diastase.

**Potassium nitrate:** A 24-hour soak in 2 per cent potassium nitrate was not effective.

**Sodium Thiocyanate:** A 24-hour soak in 1 per cent sodium thiocyanate was not effective.

**Pectinol:** Seeds were soaked for 24 hours in a supersaturated solution. Germination began three to four days ahead of control but there was no difference at the end of two weeks. Further tests confirmed these findings.

Ethyl, methyl, propyl alcohols and ethylene glycol in 50 per cent solutions had no effect on germination with a 1-hour treatment.

Soaking seeds for four hours in either 2.5 per cent sodium hypochlorite or 0.5 per cent solution of U. S. P. standard  $H_2O_2$  gave early and uniform germination but at the expense of slightly lower total germination.

In all cases, any treatment that hastened germination did so at the expense of some total germination.

C.

#### EFFECT OF PHOTOPERIOD

The effect of long and short day treatments on the rooting and shoot development of cuttings of *Taxus cuspidata* is described by William E. Snyder, formerly of Cornell University, Ithaca, N. Y., and now at Rutgers University, New Brunswick, N. J. (Proc. Am. Soc. Hort. Sci., 66: 397-402, 1955). The work was done at Cornell University.

It had been noted that *taxus* cuttings taken in November, December



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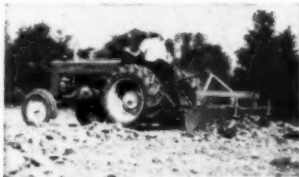


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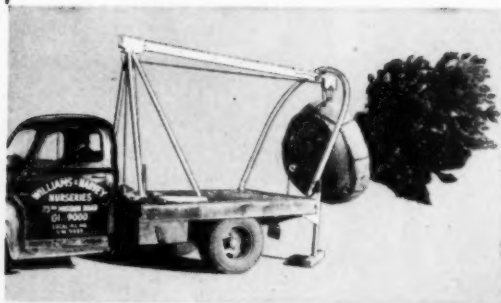
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and January all waited until late January or early February before shoot development occurred. This seemed to have little relationship to the state of development of the roots. It was therefore thought that this might be a photoperiodic response.

In the experiment, terminal cuttings without lateral shoots were taken in December from *Taxus cuspidata* of clonal origin. Cuttings were approximately seven inches long and needles were removed from the basal two inches. Bases were dipped in a powder containing 0.3 per cent indolebutyric acid and cuttings inserted in coarse bank sand with the rooting medium maintained at 65 degrees Fahrenheit by heating cable.

Three different photoperiods were applied by the use of lights and black cloth: An 18-hour day, natural day length, and an 8-hour day. In the experiment, 366 cuttings, divided into 24 replicates of 15 cuttings each, were subjected to each photoperiod. Six replicates from each photoperiod were examined 30, 75, 90 and 121 days after insertion. A bud was considered active if the needles had separated, and a cutting was considered rooted if one or more roots were present. The presence of 10 or more roots exceeding one inch in length, or five or more if secondary roots were present, was the criterion for a pottable cutting. After potting, cuttings were always returned to the same photoperiod.

On June 1, 18 lots of potted plants of 10 plants each were selected from each original photoperiod on the basis of uniformity, and six lots from each original photoperiod were sent into each of three groups for growing on, the new groups again having 18-hour day, natural day length, and an 8-hour day. These were grown on to October 15.

It was apparent that day length had a marked effect on the breaking of buds in the cutting bench. The longer the day length, the more plants had breaks and the greater the number of breaks on an individual plant. Day length, however, had no effect on either the number of cuttings rooted or the number of roots per cutting. Thus, the two growth phenomena seem relatively independent.

When the potted plants were grown on under the three different photoperiods, it was found that the photoperiod had much greater effect on those plants rooted under a short day than on those rooted under a long day. The inhibition of bud

breaking by short days continued throughout the full period of the experiment. Thus, those cuttings rooted under short days and continued in growth under short days never developed their lateral breaks. On the other hand, those rooted under short days and then transferred in June to long days showed a marked flush of lateral shoot development in June. When cuttings had been rooted under long day conditions, they showed little difference in later growth under either long or short days. Apparently the first 30 days of long day conditions brings about almost a full response and continuation of the long day treatment can accomplish little more. C.

#### AZALEA MEALY BUG

The biology of an azalea pest, the mealy bug, *Ferrisia virgata*, is given by Henry A. Highland, in the *Journal of Economic Entomology*, Vol. 49, No. 2.

Although the azalea mealy bug is generally considered a tropical and subtropical insect, a heavy infestation was discovered on azaleas in Maryland. According to observations carried out under laboratory conditions, the females molted three times and required an average of 28.8 days to reach the adult stage. Males molted four times and required an average of 38 days to become adult.

Field observations on Hinodigiri azaleas indicated that the nymphs left the overwintering site and began to feed at the axils of old and new leaves and at the bases of flower buds the first week in April. Nymphs of the new generation appeared during the second week of June. The next generation appeared about the first week in August. These are the overwintering forms which move to empty seed capsules with the advent of cool weather.

In Maryland this mealy bug is not attended by ants, and there is no honeydew.

Mr. Highland observed a high rate of parasitism in the overwintering forms and believes that natural control by parasites is an important factor in preventing *F. virgata* from becoming a pest in many areas.

Malathion at the rate of 1.5 quarts of 57 per cent emulsifiable concentrate per 100 gallons of water gave excellent control. I.

ALDEN LANE NURSERY, Livermore, Calif., was visited by members of the Livermore Garden Club in August.



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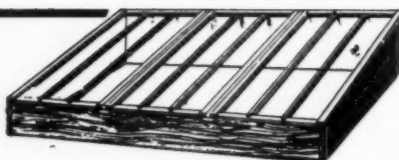
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16 x 4 feet .....	55.50	29.74
6 x 6 feet .....	33.10	22.28
9 x 6 feet .....	47.90	29.74
12 x 6 feet .....	60.45	34.46
16 x 6 feet .....	75.25	58.82
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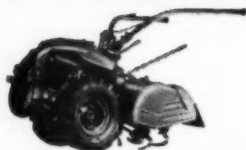
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## PLANT PATENTS

The following plant patents were issued recently, according to Rummeler, Rummeler & Snow, Chicago patent attorneys:

No. 1503. Peach tree. Clara V. Benjamin, Dayton, O., assignor to Harry E. Malter, Monroe, Mich. A new and distinct variety of peach tree of the yellow-fleshed, freestone, fruit-bearing class, characterized particularly as to novelty by the habit of development and ripening of its fruit in at least three and sometimes four separate and distinct periods ranging from late July to late September.

No. 1504. Rose plant. Roy L. Byrum, Richmond, Ind., assignor to Joseph H. Hill Co., Richmond, Ind., a corporation of Indiana. A new and distinct variety of rose plant of the hybrid tea class, characterized particularly as to novelty by its prolific blooming habit, by its food winter-forcing characteristics, by its good bud formation and bloom size, by the slow-opening habit of its blooms, by the good texture of its flower petals and by its distinctive bloom color corresponding to that of the variety Orange Delight (plant patent No. 874).

No. 1505. Rose plant. Cipriano Soria, Livermore, Calif., assignor to Germain's, Inc., Los Angeles. A new and distinct variety of polyantha rose plant, characterized particularly by its vigorous, sturdy growth, its climbing habit, its wiry stems, its prolific production of dark red flowers throughout the season and its habit of breaking freely.

No. 1506. Exochorda macrantha hybrid plant. Herman J. Grootendorst, Boskoop, the Netherlands, assignor to John J. Grullemans, Cleveland, O. A new and distinct variety of Exochorda macrantha hybrid plant, characterized particularly by its dwarfness, compactness and recurrent branches; its free flowering, and the unusually large number of blooms constituting each raceme.

### GAMMA RAYS ON FRUIT

Cornell University plant scientists at the experiment station at Geneva, N. Y., are subjecting apples and grapes to gamma radiations at the Brookhaven national laboratory as a part of the station's fruit-breeding program. Such radiations are generally harmful to plants, say the scientists, but they are also known to produce hereditary changes, some of which might be of practical value. How the radiation experiments are being conducted and results to date are described in the July issue of the station's quarterly, Farm Research, available upon request to the experiment station.

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**Decaisne**—Midseason, single. Large azure-blue.

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**General Sheridan**—Late blooms of double white.

**Jacques Callot**—Single, large rose-lavender.

**Katharine Havemeyer**—Pink, double.

**Lucie Baltet**—Single, pink.

**Ludwig Spaeth**—Late blooms of single deep red florets.

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